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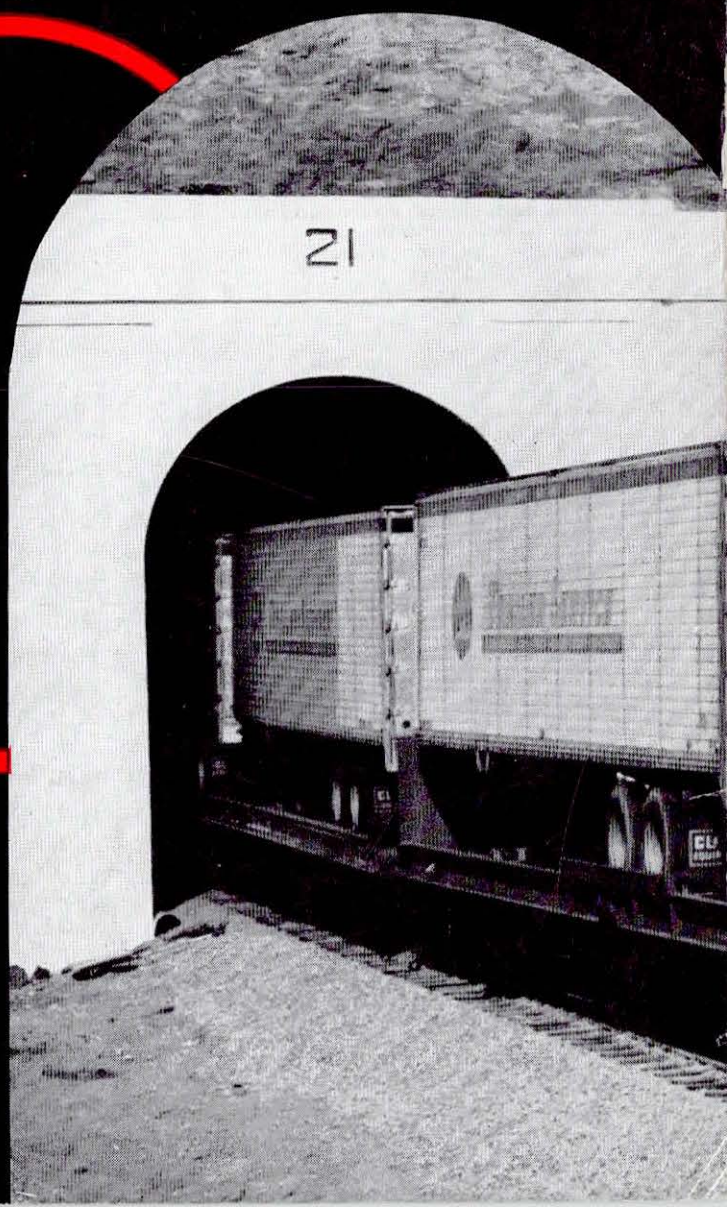
Metropolitan air rights: How a **billion-dollar** opportunity is being exploited . . . . . p. 14

November 11, 1963

RAILWAY AGE WEEKLY

B&O 'raises the roof' for its piggyback customers p. 12



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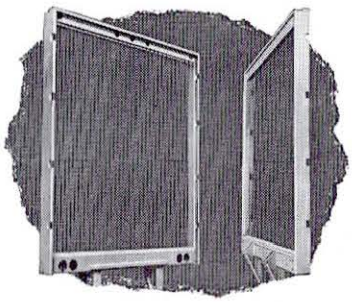
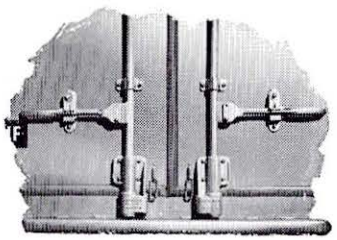
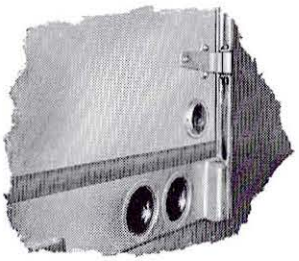


Single welded steel structure combines door posts, header, box-section crossmember, ICC bumper and new steel bumperettes. Light boxes and electrical conduits are built into structure. Dock protection afforded is unequaled in any other Trailer.

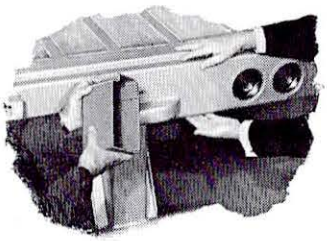


Stronger Super Antirax* door latches reduce torsional moment to less than a third that of conventional latches. An exclusive Fruehauf feature, they give solid, tightly-sealed fit and help stabilize entire rear end.

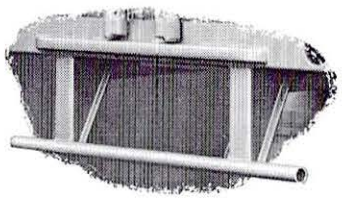


Lock Flange* rear doors are a Fruehauf exclusive. Protecting flange guards the hinged edge of closed door against outward thrust of interior loads. Lock Flange* and Antirax* latches combine to make this door mounting the strongest in the industry.

*Fruehauf Patent Pending



Rear crossmember—seven gauge steel box-section reinforced with interior steel baffles —is extremely rugged. Deep recess on top receives bottoms of doors in weather-tight fit.



New stronger ICC bumper is constructed of 2½"-diameter pipe. Supporting gussets, welded to frame, add extra rigidity and strength. Dock bumper protects doors, lights and hardware.

ONLY FRUEHAUF DESIGNS SO MUCH STRENGTH INTO REAR END OF TRAILER!

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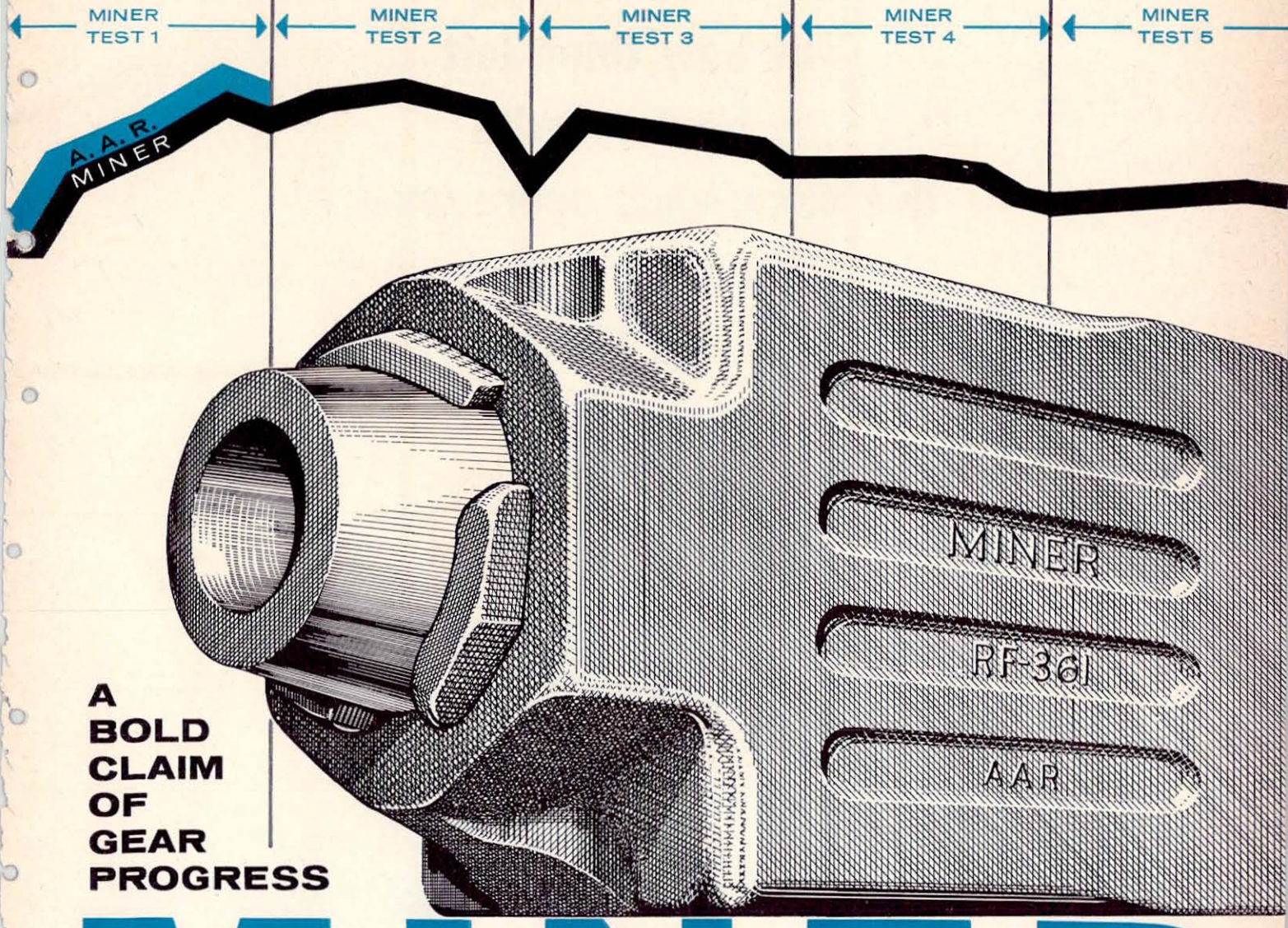

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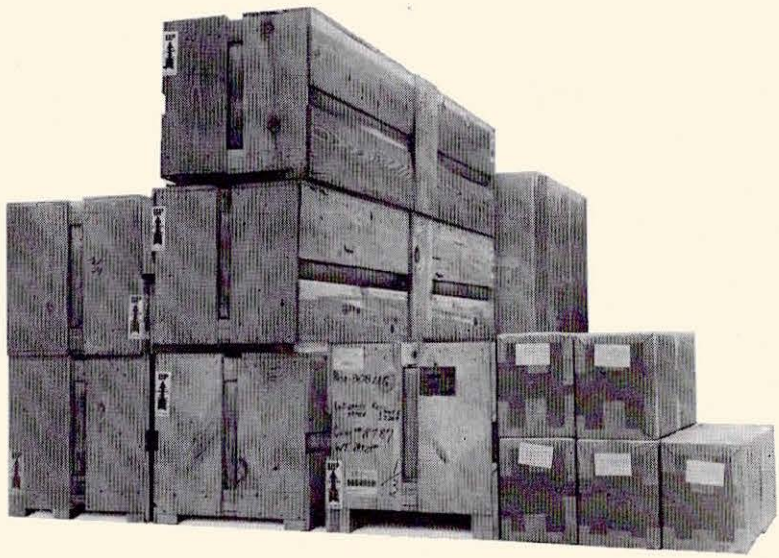

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RAILWAY AGE WEEK AT A GLANCE

November 11, 1963 • Vol. 155, No. 19

Board set to decide crew issues

Formal arguments have ended in the work-rules case, and the arbitration board is preparing its decision to be handed down by Nov. 26. .....p.9

Examiner would let T&P buy three roads

ICC Examiner Thomas J. Patrick has recommended that the Commission permit the Texas & Pacific to take control of the three-railroad Muskogee Co. system. p.11

B&O 'raises the roof' for TOFC

The Baltimore & Ohio's freight business picked up sharply after completion of a $12-million program designed to improve the road's traffic-handling capability p.12

Air-rights boom picks up speed

Here's how U.S. and Canadian railroads, by subdividing the space over their property, are creating a billion dollars worth of new metropolitan real estate p.14

Microwave continues its fast pace

It is estimated that railroads, to improve their communications systems, will spend $2 million for new microwave radio equipment each year during the next decade p.19

How Crucible tests its springs

Electronic equipment at the Spring Division plant of Crucible Steel Co. automatically tests, under working loads, every freight car truck spring leaving the production line p.26

More integration of Pan American roads?

Delegates at the recent Pan American Railway Congress discussed ways of restructuring the organization to permit it to work toward better coordination of rail services p.27

WP, GE unveil new data system

A total-information control system, viewed as a revolutionary railroad management tool, is to become operational in 1965. The system would be controlled from San Francisco p.34

Why advertise to railroad signal supervisors if you're selling locomotives?

Advertising for General Electric locomotives by George R. Nelson, Inc., Schenectady, New York

GENERAL ELECTRIC doesn't

There are two groups of railroad men who are the active buying influences for locomotives.

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RAILWAY AGE WEEK AT A GLANCE

The Action Page: L&D—more info needed

Comprehensive figures, adequately analyzed, are needed to steer loss and damage inspection forces to the place where their services are apt to prove most fruitful p.42

Short and Significant

A strike ballot is being circulated...

by the six shopcraft unions in connection with their 1962 job stabilization demands. Wage-benefit demands filed this year are not involved. Ballots are returnable by Nov. 21.

Chairman Stuart T. Saunders says the PRR...

should be in the black by "a fair margin" in 1963, barring bad weather and other unforeseen developments; the road will spend $6 million for 20 new or rebuilt passenger cars.

Erie Lackawanna's application...

for a government-guaranteed $5 million loan has been turned down by the ICC. Despite current deficits, E-L Chairman William White hopes for an upswing into the black in 1965.

Southern has won court clearance...

for its use of aged, inexperienced men to ride its diesels as firemen. The BLF&E's motion for a contempt citation against the road has been denied.

Federal Judge Leonard P. Walsh...

rejected the plea, which alleged non-compliance with his order requiring Southern to assign firemen to all yard and freight diesels (RA, Aug. 19, p.40).

Departments

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You Ought to Know 40

Current Statistics

Operating revenue	
6 mos., 1963	4,714,888,444
6 mos., 1962	4,703,908,621
Operating expenses	
6 mos., 1963	3,683,992,541
6 mos., 1962	3,712,959,223
Taxes	
6 mos., 1963	464,644,151
6 mos., 1962	523,652,505
Net railway operating income	
6 mos., 1963	359,753,801
6 mos., 1962	275,271,282
Net income, estimated	
6 mos., 1963	270,000,000
6 mos., 1962	181,000,000

Carloadings revenue freight	
44 wks., 1963	24,658,484
44 wks., 1962	24,608,937
Freight cars on order	
Oct. 1, 1963	18,388
Oct. 1, 1962	11,064
Freight cars delivered	
9 mos., 1963	31,891
9 mos., 1962	29,652
Serviceable cars	
Oct. 1, 1963	1,409,980
Oct. 1, 1962	1,435,250
Cars awaiting repairs	
Oct. 1, 1963	117,177
Oct. 1, 1962	131,615

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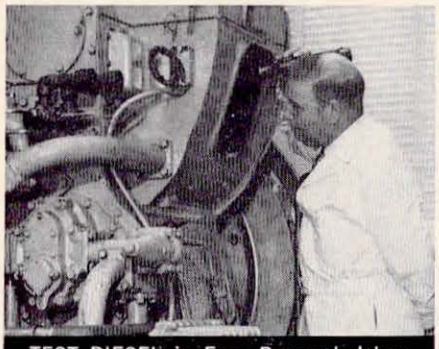

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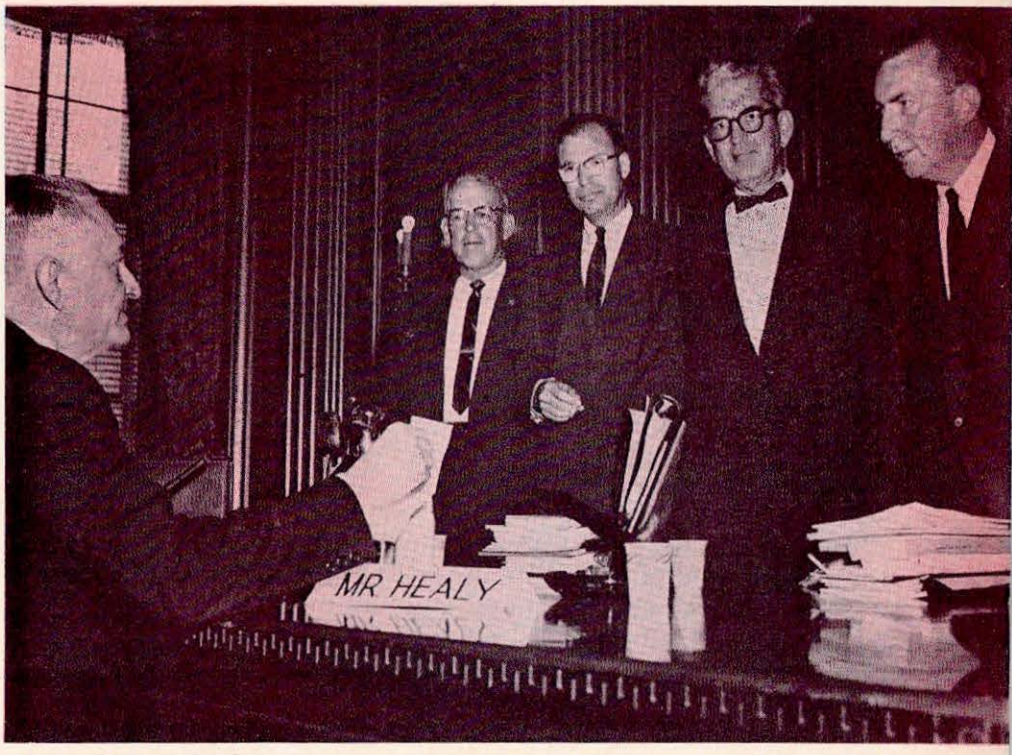
IT PAYS TO DO BUSINESS WITH HUMBLE . . . AMERICA'S LEADING ENERGY COMPANY

WORK RULES

Board set to decide crew issues

By Nov. 26 the arbitration board will make a decision on the elimination of the fireman and the makeup of train crews. Meanwhile, the unions warned a new crisis may be shaping up over other issues on which negotiations are continuing.



Carriers' Attorney Howard Neitzert, left, addresses board members, left to right, H. E. Gilbert (BLF&E), Benjamin Aaron, Ralph T. Seward and James J. Healy.

There's a time for argument and a time for decision. Arguments—the formal kind—are a thing of the past for the work-rules arbitration board now. And the time for decision is here.

Within the next two weeks, the seven-man panel will decide how the four-year-old labor dispute will be ended—at least so far as the major fireman-off and crew-consist issues are concerned. Other issues are supposed to be settled by negotiation—and already there's argument from the brotherhoods' side that these points may produce another rail management-labor crisis.

● **Deadline coming up.** In any event, the arbitration board, headed by 56-year-old Ralph T. Seward (permanent arbitrator for Bethlehem Steel and the United Steel Workers), will have by Nov. 26 its decision on elimination of the fireman and on the makeup of train crews. Sixty days after the board files its report, the decisions will become effective (for a two-year period, as stipulated in the arbitration law passed by Congress to head off a rail strike late in August).

Neither the carriers nor the brotherhoods have departed in any significant degree from past positions in their arguments before the board. But one of the major arguments has involved the extent to which the issues have narrowed in the past—including proceedings with the Presidential Railroad Commission, Emergency Board 154 and Secretary of Labor Wirtz (who prompted talks in the wake of Board 154's report).

● **Differing arguments.** Union attorneys have argued that any move toward the center by the carriers should be regarded as a starting point. The railroads have countered with the point that no meaningful change in positions has taken place—since the operating brotherhoods have refused to accept any recommendations or proposals made in connection with the dispute.

According to the schedule set by the board, hearings in the case ended Nov. 2. During the following week, the three public members got out for an on-the-spot look at railroad operations. Final written briefs were due Nov. 9—after which the board plunged into the job of writing its award.

● **Factors in decision.** Decision will depend on the weight which the public members put on the evidence submitted—and on the effectiveness of the arguments put forth by the carrier and union representatives during the board's de-

WATCHING WASHINGTON WITH WALTER TAFT

TAFT

• **MORE LIGHT** on how the ICC now interprets the 1958 Transportation Act's rate-freedom provision has been shed by the Commission's decision in I&S No. 7661. The decision cleared water-competitive railroad rates on candy and confectionery moving from points in New York, New Jersey and Pennsylvania to Dallas, Tex., Fort Worth and great southwest. Water carriers protesting the rates, which are scheduled to become effective this week, were Seatrain Lines, operator of seagoing car ferries in coastwise service, and Sea-Land, Inc., a coordinated operation in which highway trailer bodies or containers are transported over highway and water segments of through routes. The Commission's report embodied the latest of several new and reconsidered rulings which have come in the aftermath of the United States Supreme Court's decision in the New Haven case (RA, Apr. 29, p. 9). That was the Court's first interpretation of the rate-freedom provision, which is now Section 15a(3) of the Interstate Commerce Act.

THE COURT set aside a Commission order requiring that railroad piggyback rates be differentially higher than competing rates of water carriers in the Atlantic-Gulf coastwise trade. More important for the present case, however, was its determination that the rate-freedom provision's call for "unfair or destructive competition" is a mandate to the Commission to prevent a carrier from "setting a rate below its own fully-distributed cost, which would cause a competitor with a cost advantage to establish an unprofitable rate in order to attract traffic."

IT'S THIS MANDATE which got further interpretation in I&S No. 7661. In protesting the railroad rates, Seatrain and Sea-Land offered cost evidence indicating that one or the other of them was the "low-cost carrier," on the fully distributed-cost basis, over most of the routes involved. The cost evidence also indicated, however, that the reduced railroad rates would exceed the railroads' full costs. Thus, the Commission concluded, the rates could not be condemned, because they are not below the railroads' full cost, and they should not force the water lines to go below their own (lower-than-railroad) full costs in order to remain competitive.

ALLEGATIONS OF DISCRIMINATION against "connecting lines," i.e., water carriers which participate in competing rail-water-rail rates, were also rejected. These allegations were based on contentions that rail factors of the rail-water-rail rates should be on the same relationship to first-class rail rates as are the new all-rail rates.

DISSENTING-IN-PART EXPRESSIONS came from Chairman Walrath, with whom Commissioner Herring agreed, and from Vice-Chairman Goff, with whom Commissioner Murphy agreed. Commissioner Tierney did not participate. Messrs. Goff and Murphy would have upheld the allegations of discrimination against "connecting lines."

THE WALRATH-HERRING OPINION was a sharp indictment of the majority report, which was assailed because it "falls short of facing the situation spelled out by the facts." The failure of the railroads to offer cost evidence was also pointed up. The majority's determination of the cost issue was based on figures which the water carriers developed from formulas of the Commission's Bureau of Transport Economics and Statistics. That situation, and the "paucity of the rail showing" generally, left Messrs. Walrath and Herring wondering if the railroads "truly desire approval" of the rates.

liberations. For the carriers, this will be the job of J. E. Wolfe, chairman of the National Railway Labor Conference; and Guy W. Knight, vice president-labor relations of the Pennsylvania. Brotherhood representatives are H. E. Gilbert, president of the Brotherhood of Locomotive Firemen & Enginemen; and R. H. McDonald, senior vice president of the Brotherhood of Railroad Trainmen.

At the time Congress—racing a strike deadline—enacted arbitration legislation, it called for negotiation of so-called "minor" issues, and individual members of Congress warned against the dumping of these issues on Washington.

• **BLE protests.** Last week, however, Roy E. Davidson, grand chief of the Brotherhood of Locomotive Engineers, warned that crisis may come again. Mr. Davidson called it "tragically stupid" to refer to the other issues as secondary. Said BLE's chief: "Any time the issues involving a locomotive engineer's pay rates, his working conditions, his time away from home, his seniority, his right to effective representation, are minor or secondary, that will be the time hell freezes over and the BLE goes out of business."

Mr. Davidson declared that "we intend to score a real victory on these other issues. If we don't, I'm willing to guarantee that there will be a crisis that will make the one this past summer look like a Sunday School picnic. We have been denied too many things too long."

• **'Minor' issues snagged?** BLE's top man also charged that "negotiations on the other issues haven't been getting much of anywhere." Carrier representatives, he said, "are waiting for Nov. 26 to see what the arbitration board award is."

Throughout the dispute—which now dates back to November 1959—the railroads have accepted impartial-board recommendations and the ops have just as consistently rejected them, and charged the carriers with refusal to negotiate. Mr. Davidson's charges take a similar slant. "It takes two sides to negotiate," he declared. "Let's get to it."

• **Why BLE's blast?** New emphasis on the non-arbitrated issues can be taken in any of several ways, as most observers see it. The obvious possibility: Brotherhood representatives see a strong possibility that the carriers will get a large part of what they want on the fireman-off and crew-consist issues from the arbitration board. Organizations not directly involved, then, want the quid-pro-quo—that is, a loss has to be balanced by a victory somewhere else.

Examiner would let T&P buy three roads

The ICC has been advised to approve a plan for control of Muskogee lines and sale of Oklahoma City-Ada-Atoka to Santa Fe.

Control by Texas & Pacific of the 767-mile Muskogee Company system, consisting of three railroads, largely in Oklahoma with routes extending into Kansas, Arkansas and Texas, has been recommended to the ICC by Examiner Thomas J. Patrick. The proposed transaction includes a provision permitting the Santa Fe to acquire control of one of the three Muskogee roads from T&P and its parent, Missouri Pacific, which would retain indirect control of the other two railroads.

Involved are the Kansas, Oklahoma & Gulf, the Oklahoma City-Ada-Atoka, and the Midland Valley. Acquisition of their outstanding stock would be financed by T&P by issuance of a promissory note for $9.5 million. Santa Fe would then purchase all outstanding capital stock of the OC-A-A for $1 million. Santa Fe and T&P had previously agreed on this arrangement.

● **Joint control rejected.** The case is FD No. 22274 and related proceedings. In recommending approval of the above transactions, Examiner Patrick's proposed report also recommends Commission denial of a Missouri-Kansas-Texas petition seeking joint control with T&P of the Muskogee roads through 50% stock ownership. Other opponents of the proposed acquisitions include the Kansas City Southern and unions representing railroad employees.

The examiner's recommended approval of the T&P-Santa Fe plan calls for imposition of the usual open-route and employee-protection conditions. In the latter connection, however, Mr. Patrick would have the Commission limit the protection to employees of roads directly involved. He would reject a plea of the Railway Labor Executives' Association for extension of the protection to M-K-T employees who might be adversely affected by diversion of traffic from that road.

"If the employees of the M-K-T were included in the protective provisions," the proposed report said, "it would seem reasonable to conclude that the employees of other competing lines would be affected, namely those of the Santa Fe, Rock Island, KCS and Southern Pacific, not to mention other connecting-line carriers. There is no evidence to indicate that any employee of M-K-T performs any service for the KO&G system which might be affected by the transaction."

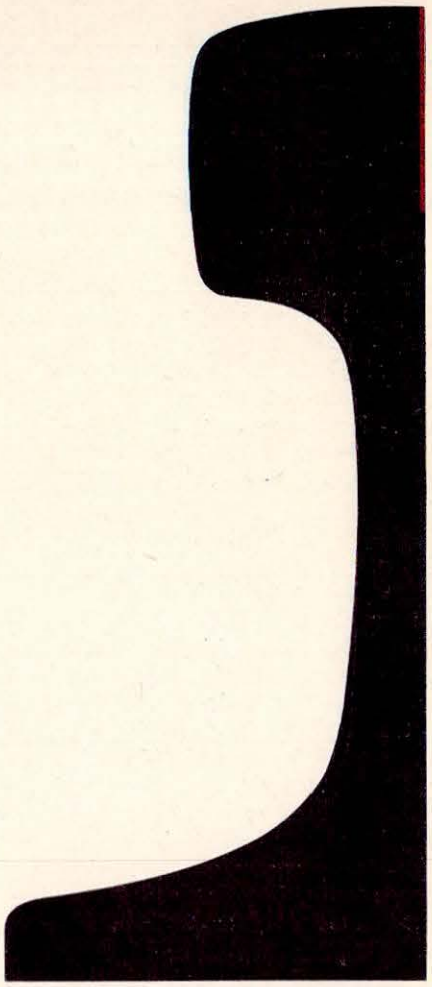
● **Where they run.** Largest of the Muskogee lines is the 335-mile Midland Valley, which runs east and west between Fort Smith, Ark., and Wichita, Kan. The KO&G is a north-south line, extending 203 miles from Okay, Mo., to Denison, Tex. It crosses the MV at Muskogee, Okla. The OC-A-A is a 104-mile line which connects Oklahoma City with Tupelo, Okla., a point also on the KO&G.

Outside ICC jurisdiction

The Muskogee Company, a Delaware corporation organized in 1923, is described in the proposed report as an investment company interested primarily in railroad securities. It is a noncarrier and thus outside ICC jurisdiction, but is subject to jurisdiction of the Securities & Exchange Commission. It first became interested in KO&G in 1925, and now holds about 99% of that road's capital stock. In 1930, it acquired control of MV, and now owns 99.5% of that road's stock. It has 100% of the stock of OC-A-A, of which it first acquired control in 1929.

Meanwhile, MV owns 38,250 shares of Muskogee's stock. The latter proposes to purchase those shares "for cash sufficient to pay off an indebtedness of MV in the sum of $885,000," the proposed report said.

T&P and MoPac filed their joint applications for authority to control the Muskogee roads a little over a year ago —on Sep. 28, 1962. About three months later, Santa Fe filed its application for authority to buy OC-A-A from T&P if the latter's application were approved. Among interests supporting these applications are state regulatory commissions of Oklahoma, Kansas and Arkansas. Business interests in Houston, Tex., and Baton Rouge are with KCS and RLEA in the opposition camp.



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B&O 'raises the roof' for TOFC

A just-completed $8.5-million project to improve clearances on its Clarksburg-Parkersburg line already has increased B&O's TOFC business, which, it is expected, will reach $25 million by 1968.

At 8:45 on the morning of Oct. 29 a special 10-car Baltimore & Ohio passenger train carrying a party that included about 65 press representatives pulled out of Clarksburg, W. Va., headed westward. Its destination was Parkersburg, 80 miles away.

The same morning an eye-catching, full-page B&O advertisement was published in the Wall Street Journal, the Journal of Commerce and dailies in more than a dozen large cities in the eastern half of the country. The ad, which also appeared in the Nov. 4 issue of Railway Age, featured a drawing of a piggyback train speeding through a tunnel portal. The drawing was captioned: "NOW! ROOM AT THE TOP."

Both the train movement and the advertisements were part of a plan to publicize to the public in general, and shippers in particular, completion of a property-improvement program to improve the B&O's traffic-handling capability.

● **Wanted piggyback business.** The story began several years ago when piggyback traffic started to emerge as an important source of railroad business. B&O management, aware of the potential, also knew that the road was in no position to take full advantage of it because of the physical restrictions of tunnels and overhead bridges.

In August 1961, a program was launched to eliminate the restrictions. Efforts were aimed at opening up the main lines of the system to higher and wider loads as rapidly as the work could be completed on the various lines. The work included removal of obstructions on the lines of the Reading and the Central of New Jersey, used by the B&O for freight movements to and from the New York City metropolitan area.

By late 1961, the way had been cleared for moving 12½-foot-high trailers over the Chicago-Jersey City route. Shortly thereafter, on completion of additional clearance work, the way was opened for the movement of 13½-foot trailers between Washington, D.C., and Philadelphia, and eventually to Jersey City. Work scheduled for 1962 was aimed at opening all main lines of the road to the 13½-foot trailers, i.e., except for an 80-mile stretch of line in West Virginia.

At this point the story shifts back to the special train that was operated between Clarksburg and Parkersburg on Oct. 29. All along it was realized by B&O management that, because of the concentration of clearance work between these points, this phase of the program would be the last to be completed. What's more, it was the most dramatic, consisting of a series of imposing engineering achievements involving elimination, enlargement or bypassing of 18 tunnels in rugged mountain country.

LINE CHANGES and the daylighting of tunnels required construction of several deep cuts like this one.

● **Immediate results.** To tie in a press inspection of these achievements with widespread advertising announcing completion of the over-all program seemed an effective way of getting the most mileage out of the possibilities for dramatizing the story to the public.

Estimates of the B&O's transportation department were that the removal of restrictions on the line to St. Louis and Cincinnati, which includes the Clarksburg-Parkersburg segment, would very quickly result in a 20% increase in freight business. This estimate has already been surpassed. While official lifting of the restrictions came on Oct. 29, the modernized line was actually opened to traffic on Sunday, Oct. 27. Shippers were quick to respond, and the road has had to run one extra train each way every day to handle new business. "Right now," said Jervis Langdon, Jr., B&O president, "we are working out schedules for two additional trains each day."

Mr. Langdon says the B&O's TOFC business is expected to bring in $25 million by 1968, compared with an estimated $11 million this year.

● **Once had 23 tunnels.** As the special train moved over the line to Parkersburg, the reporters and editors aboard had an opportunity to learn what the railroad had faced and what it accomplished in removing the restrictions on the 80-mile stretch. Answering their questions were J. A. Caywood, chief engineer, J. T. Collinson, deputy chief engineer, and other members of the B&O engineering staff.

When this route through the Allegheny mountains was originally built between 1852 and 1857 it was necessary to construct 23 tunnels in the 80-mile section. For more than 20 years efforts had been made by the B&O to eliminate clearance restrictions imposed by small tunnels on the line. These efforts resulted in the replacement of one tunnel with a new larger tunnel and the daylighting of four others. Hence, 18 tunnels remained to be dealt with when the clearance program got under way in 1961.

As a result of extensive engineering studies it was decided to use these five different methods in eliminating the tunnel restrictions:

(1) Lowering the floors and tracks in the tunnels and underpinning the tunnel walls—used in five tunnels.

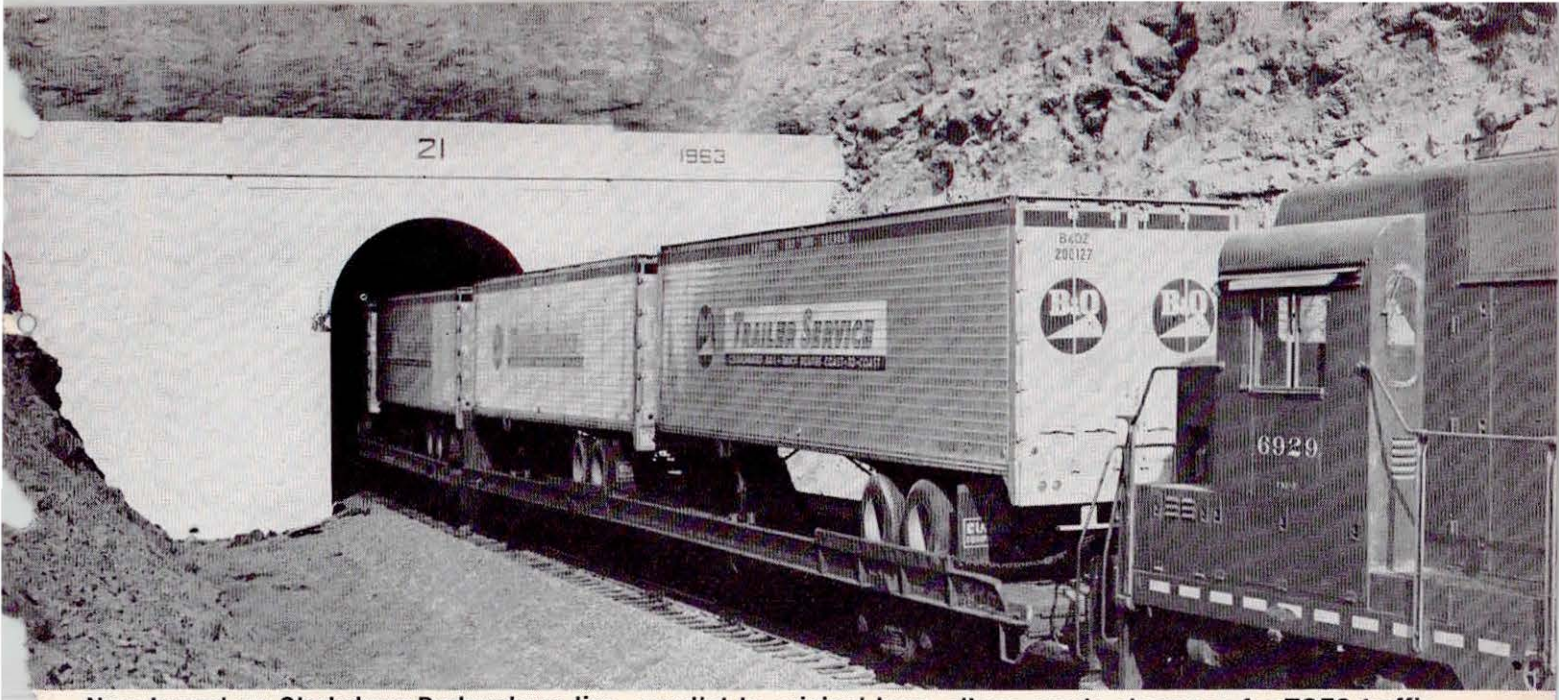
(2) Enlarging the existing tunnels by raising the roofs and setting back the walls—used in four tunnels.

(3) Daylighting or removing the cover over the tunnels, leaving the track on the same alignment—used at five tunnels.

(4) Bypassing the tunnel on a new alignment—used at three tunnels.

(5) Constructing a new tunnel on a different alignment—used at one location.

● **A bold decision.** Before starting work on this final phase of the clear-



New tunnel on Clarksburg-Parkersburg line, parallel to original bore, allows ample clearance for TOFC traffic.

One of three tunnels on the Clarksburg-Parkersburg line that have been bypassed by line changes.

ance program, B&O management had a decision to make. If the work were to be carried out under traffic it was estimated that more than a year would be required to complete the project. On the other hand, if traffic could be detoured around the 80-mile section, B&O engineers figured the job could be done in about five months. These considerations led to the bold decision to close down the Clarksburg-Parkersburg section of the main line and detour all traffic over a branch-line route 117 miles long. The detour route was put into effect last May 15.

With no traffic to worry about, the project could be organized so that work could proceed on all the tunnels simultaneously. In some cases the operations were carried forward on an around-the-clock basis. Some work was performed with company forces; in other cases it was done under contract.

The scope of the work is illustrated by the quantities involved. In daylighting the five tunnels the amount of cover that had to be removed ranged from 63 feet to 170 feet. Primarily because of this work and the grading required in constructing the line changes, the project required 2,200,000 cubic yards of excavation. Other quantities included 11,500 cubic yards of concrete reinforced with 1,700,000 pounds of steel, and the installation of more than five miles of drainage pipe.

The work between Clarksburg and Parkersburg was completed at a cost of $8,500,000. This is more than two-thirds of the total cost ($12 million) of the entire clearance program.

● **Thirty-six other locations.** Excluding the 80-mile segment in the Alleghenies, the clearance program involved elimination of restrictions at 36 different locations over the system. These included the lowering of floors or tracks at 12 bridges, the enlargement of 13 tunnels, line changes to bypass nine tunnels, and various measures taken at three other locations. Tunnels on the B&O now provide minimum clearances of 17 feet 2 inches, in contrast to the previous minimum of 14 feet 2 inches.

Completion of the clearance program has, according to the road, resulted in the clearing of all its main lines for handling the highest piggyback freight trailers in general use on American railroads, and for automobile rack cars and other higher and wider freight movements.

The improvements, said Mr. Langdon, give the B&O the "shortest high-car freight route between the East and the Southwest." The railroad is now able to provide faster, improved freight service to and from all parts of the West, through the gateway cities of St. Louis, Cincinnati, Louisville and Chicago, according to the B&O president.

Following through on the initial publicity given the completion of the clearance program, Mr. Langdon and Walter M. Haenssel, B&O vice president traffic sales, are planning a tour of nine or more western and southwestern cities. Luncheon meetings in each of the cities will be used to acquaint shippers with the improved service the B&O is now in a position to offer.

"We expect that the improvements will pay for themselves in two years," stated Mr. Langdon.

Air-rights boom picks up speed

Aerial 'real estate' is proving to be a rich new source of revenue for railroads—and it's a source that is growing bigger every day.

A new dimension has been added to railroad real estate. Both cities and railroads will reap the benefits—in taxes and million-dollar-a-year rentals—for years to come. The new dimension is height. By subdividing the space over their property, railroads are creating a billion dollars worth of new metropolitan real estate.

● **Booming market.** Railroads have known about air rights for a long time, but it is only in the past few years that the market—spurred by a shortage of prime downtown real estate—has begun to boom. Hard-pressed for revenues in recent years, railroads are taking a cue from pioneer air right successes and are pushing developments in New York, Chicago, Philadelphia, Montreal and Edmonton. The stakes are high—whether the land is sold or leased, whether the use is residential or commercial. The stakes are equally high for cities in search of new tax revenues and seeking downtown redevelopment.

"The development of railroad air rights has been in process for many years in a limited sense," comments H. J. McNally, Pennsylvania's chief engineer, New York improvements. "The potential for the future is growing more and more."

● **'Multiple use of land.'** The boom in the air rights market was created, in the words of James O. Boisi, New York Central's vice president-real estate, by a "crying shortage of property" in urban areas. "One of the things that has become patently clear," he says, "is that where you need land, there is no land. We in the railroad industry have the answer to this in the multiple use of land." Mr. McNally observes that, "The elimination of open land in our urban areas and the increase in high-rise construction in our cities has increased the number of potential buyers in the real estate market looking at railroad properties."

A change in the attitude of railroad management helped open the door for development of air rights, according to J. C. Machan, Canadian Pacific's general manager of real estate. "The right-of-way fence," says Mr. Machan, "used to mean off-limits for developers. Right-of-way was reserved only for running a railroad. Now that's changed. When an entrepreneur looks at railroad tracks, he no longer turns his back." Mr. Boisi feels that, "It is only in recent years the railroad industry has entirely realized the diverse use that can be made of right-of-way and yard property."

● **Early examples.** Examples of what could be done with air rights have been standing for years. As far back as 1909, New York Central utilized its air rights for a post office building constructed over two levels of platforms at Grand Central Terminal in New York City. In Chicago, Illinois Central entered the field when the Prudential Building skyscraper was erected over IC's Randolph Street suburban station. IC sold the air rights for $2.27 million. Chicago & North Western sold air rights for such structures as the Merchandise Mart and the Chicago Daily News-Sun-Times Building.

These developments were forerunners of the present boom. The air rights landmark in New York now is the octagonal Pan American Building, largest commercial office building in the world, which was completed early this year on the Grand Central site. The Pennsylvania converted 21 acres of downtown Philadelphia into Penn Center, a residential-commercial complex, and work is beginning on the Madison Square Garden Sports Center, a $75-million project to rise on PRR's New York Penn Station site.

● **Skylines change.** In Cleveland, New York Central's Terminal Tower is the tallest building outside of New York. Canadian National changed the skyline of Montreal with its $27.5-million Central Station (1943), the $4-million International Aviation Building (1950), the Terminal Center Building (1956), the 1,200-room Queen Elizabeth Hotel (1958), CN's headquarters building (1961), and the magnificent Place Ville Marie (1962), an $80-million complex whose main feature is the 42-story Royal Bank of Canada Building.

Pan Am Building was completed earlier this year on the site of New York Central's Grand Central Terminal in New York City.

Marina City, twin cylindrical 40-story towers, is Chicago's most-talked-about apartment project—built on property the North Western sold for more than $2 million. Challenging Marina City for prominence will be Outer Drive East, rising on Illinois Central's lakefront property. Outer Drive East will lay claim to being the world's largest (940 units) apartment building. It will cost $27 million to build.

Chicago Union Station air rights are being used for construction of Gateway Center, a $100-million office building complex. Work began this fall on the first building.

Planned for IC air rights use are such projects as Illinois Center, a $150-

CANADIAN NATIONAL'S gigantic air rights development site in Montreal.

million office building-hotel complex; McCormick Inn, a $15-million luxury motor hotel to be built on five acres near McCormick Place; and the rest of the Jupiter buildings scheduled to follow Outer Drive East.

How much are air rights worth? "Our price," says J. M. Trissal, IC's vice president and chief engineer, "is based on two considerations. First: price of comparable naked land less the additional cost of air rights construction, taking into consideration the saving in basement excavation and ability to get two decks of parking below the viaduct level without loss of rentable space; and second, what the traffic will bear." The price range of IC's air rights property, Mr. Trissal says, is $35 to $57.50 a square foot, "subject to escalation." Total value of IC Chicago air rights has been estimated at $175 million.

• **CP's five points.** Canadian Pacific, says Mr. Machan, takes five points into consideration: a base rental, taxes, money borrowed, the project manager's know-how (an allowance of 4-7%), and operating costs. Then CP takes a percentage of revenues, which runs as high as 50%.

New York Central also gets a percentage rent in addition to a basic rent. Mr. Boisi describes the arrangement as "an escalation clause by virtue of the lower purchasing power of the dollar."

NYC's air rights, in Mr. Boisi's opinion, are worth "as much as we can negotiate. I don't believe in any such thing as inherent value of real estate. I think in terms of what the future benefits of the land are. I asked myself which part of the property is the most valuable and I've come to the conclusion that the part above the ground is the most valuable.

"In searching for some guideline, I started with a value of 50% of the land, and I found a lot of people were willing to negotiate on that figure. I raised it to 80%, and a lesser number of people were willing to negotiate—but still there was a substantial number. From there, I went to 85, 90, 92%, and I'm fast coming to the conclusion that I can get 100% of the land value. Most of my deals have ranged from 80-92%."

Chicago Union Station's air rights for Gateway Center have been valued at $8 million. The lease reportedly calls for an annual basic rental of $440,200, a yield of 5½%. With a total of 331,000 square feet in the site, the average value is $24 a square foot.

• **Sell or lease?** Some roads are selling their air rights, but most seem to favor a leasing arrangement. "If we were to lease," states Mr. Trissal, "we would require that two conditions be met: first, fee to the air rights not to be subordinated to the developer's mortgage. If this were not done, the railroad could lose title to the property in the event of a foreclosure of a tenant's mortgage after receiving rent for only a few years; and second, rental to be escalated upward or downward at five-year intervals based on some recognized price index. . . . No prospective developer has been able to meet these conditions, so all of our transactions to date have been based on a sale." IC's procedure is to sell the fee to all the space occupied by columns and caissons as well as everything above the

'It is easier to lease property . . . than to sell'

air right plane. The railroad retains fee ownership of the balance.

Canadian National maintains "it is easier to lease property to a developer than it is to sell it. This, of course, speeds up the project, for a developer doesn't need as much capital to lease the property as he would if he purchased it. . . . By leasing property, we are able to realize more return than by sale. Our leases have a built-in review clause."

● **Who's in control?** "To amortize the cost of an air rights building," comments I. R. Ballin, North Western's director of real estate, "a developer needs a substantial term. If the lease is for 99 years, the question is are you actually keeping control of the land. Basically, you've lost it. Also, a lease guarantees a set amount of income only if the lessee can pay. On the other hand, if you sell the air rights, you can invest the income."

New York Central both leases and sells. "When I have air rights in an area that will flourish in the future," says Mr. Boisi, "I lease it. Why should I sell it? Park Avenue is an example. I think Park Avenue is the most valuable piece of property in the world, and it's going to be even more valuable. In other areas, if I don't feel we're in a growth area for any one of a number of reasons—the business climate, the real estate taxes, etc.—and when appreciation isn't there, I'm willing to sell."

NYC converted Park Avenue from a residential district to a prestige business district, substantially increasing its income from the property. The lease on the Pan Am Building alone brings NYC an estimated $1.2 million a year. And Central last year sold part of its Mott Haven yards air rights for $3.03 million for construction of an apartment project.

● **Reverter clause.** A key aspect of Central's leases is the reverter clause. The leases usually call for an initial term of approximately 21-22 years with two renewal terms of 21 years each. NYC, however, reserves the right to refuse the second renewal. "If we don't renew it," explains Mr. Boisi, "we buy the building for what it's worth then. Well, then it will be 50 years old, and how much value will it have? This gives control of the area's development to the railroad. It also gives my successor the opportunity to decide what to do with the railroad's property. I don't have a crystal ball. Perhaps in 50 years, Park Avenue won't be suited for office buildings. . . . I don't know, but my successor will be able to evaluate the situation 50 years from now and decide what the next step should be."

Canadian Pacific does not keep the right to deny an option, but when the lease expires, CP considers the building railroad property.

● **What makes the market?** The determining factor in the air rights market —regardless of the city involved—is availability of land. The less land in a metropolitan area, the better the market for air rights. While only a handful of railroads currently are cashing in on the air rights boom, others are watching the real estate market with an eye to the day when their downtown property will be in demand. Many railroads which have not been involved in air rights transactions are studying the subject and surveying their property to determine what they will have to offer and how they will negotiate air right deals when the time comes.

Regional differences

"To date, very little progress [in air rights development] has been made in Midwestern or Southern cities," comments a Frisco officer. "Consequently, there is a very limited potential for air rights on our system at this time. As our cities grow and population pressure increases, the value of our downtown properties' air rights will probably become more important to us." He adds that the Frisco real estate department "has for one of its general purposes the investigation of possible leasing of air rights on our system." When land congestion puts Frisco air rights in demand, "We hope that we will have developed sufficient experience to recognize such opportunities and to successfully promote their potential."

● **One alternative.** The alternative to utilizing air rights in cities where land is scarce is land clearance. Mr. Ballin feels "there is a point of economic diminution of returns, where it costs less to tear down a building," than to build over tracks. Mr. Boisi, however, sees two basic disadvantages to the land-clearance solution: "One is the time lag. It takes time to raze buildings. The other is a social problem—you have to relocate the people displaced by the land clearance. With the use of air rights, there is no time lag and no one is displaced."

The Long Island cites air rights development "as an ideal solution to congestion problems in many areas; as a means of producing additional revenue for continuance of the railroad's modernization, and as a way of increasing tax income for the municipality and creating much-needed 'new land' without condemnation, demolition or relocation problems. . . . Land shortages and mushrooming postwar growth of Long Island focused more attention on the railroad's air rights recently. Today people are thinking of broader applications of air rights as a highly efficient land-use device."

Using air rights is one of the few remaining ways to get a large block of downtown real estate from one owner. Developers seeking sites for massive commercial or residential projects in central city areas usually have to negotiate for the real estate required with a myriad of owners of adjacent lots. "Piecing together" a site is not required with air rights development, and negotiations are simplified.

● **New approach.** Railroads have had to take a new approach when dealing with air rights. The problem is to determine what land is suitable for air rights development and what type of project will be profitable. With heavy involvement in leases which escalate the railroad's income according to the revenues of the air rights buildings, railroads are more and more turning to feasibility studies to convince themselves—as well as developers—of what can and what cannot be profitably built over their property.

Mr. Boisi calls the task a "function of imagination and persistence." Mr. Boisi's imagination is credited with being responsible for construction of the first motel on Manhattan Island (the $10-million Motel City), and his persistence with the success of the Pan Am Building.

"When I look at a location that can be developed," he says, "I look at it not as a railroader but as a developer. I study it to determine whether it's economically feasible to develop it as a commercial project, a residential project, or an industrial project. Then I call in the engineering department to determine whether it's feasible from an engineering viewpoint. And then I go out and pound on doors—seek people who might be interested in the type of development I think could go there. I have yet to have someone come to me."

The Pan Am Building was a long time getting started. Plans at one time called for a much larger structure, but Mr. Boisi talked the developer, the late Erwin Wolfson, out of the larger build-

Outer Drive East Apartments being built over Illinois Central property.

ing. Even with the more modest plans, the decision to go ahead with the venture was greeted with skepticism. "Everyone thought I'd fall flat on my face," states Mr. Boisi bluntly, "but I didn't."

● **Returns come faster.** The "smaller" project (only the Pentagon has more office space) was the result of hard economic thinking. "It took 27 months to complete the Pan Am Building," Mr. Boisi explains. "If the larger one had been built, it might have taken 48 to 50 months, it would have taken longer to rent, longer to produce income and longer for us to get some money out of it. There's more to building than slapping mortar and bricks together—you've got to have money. Say it costs $25 a square foot to construct the building and say you're talking about 10 million square feet. Well, you're talking about $250 million—and $250 million is a lot of money."

Canadian Pacific, now beating the drums for development of its air rights, conducts feasibility studies to forecast the probable success of a project. "We have to sell it to ourselves," says Mr. Machan. "Air right selling is different from the normal buying and selling of real estate." CP has found developers quite interested in air rights, frequently is approached by a developer with a proposal. "The developers make their own studies and bring them to us," Mr. Machan says. "Then we appraise them."

The Long Island is involved in a wide range of air rights projects and is still finding different uses for air rights. LIRR is currently attempting "to sell whole blocks of otherwise unsalable property between city streets that cross our right-of-way, reserving permanent rights for railroad purposes. Much of this sales development is where the railroad is below street level in open cuts." An industrial plant recently expanded by building its upper floors over the LIRR tracks serving it. In another case, the road is selling a piece of right-of-way at Kew Gardens for construction of high-rise apartment buildings, while in the Flatbush section of Brooklyn, the city is acquiring a portion of depressed right-of-way for construction of a park. Near that site, private developers have floored over the same tracks for a shopping center parking area.

Fresh approach is vital

"The fundamental block to perceptive real estate appraisal," declares NYC's Mr. Boisi, "is familiarity. We all too often fail to see potential in a too-familiar setting." Mr. Boisi's example is Concourse Village, a large middle-income housing project going up over Central's Mott Haven passenger yards in the Bronx. "Because it was a railroad yard district, the Mott Haven section had never existed as a total community. It could be no more than a marginal neighborhood. Nevertheless, the physical space at Mott Haven was invaluable in light of its access to Manhattan. Our Mott Haven site presented an excellent opportunity for employment of the air rights principle. There was no reason why a community could not flourish above ground while our passenger yard activity continued beneath."

● **Engineers' vital role.** Engineering departments have an important role in determining the extent of air rights development. Illinois Central's engineering department handles all air rights negotiations. Pennsylvania's Chief Engineer McNally views the engineer's role this way: "The engineer, knowing what is essential and what relative value exists in the various parts of the railroad structures and functions, can look at a potential project in a different light from the real estate developer. There may be a good chance, for construction purposes, of permitting construction at less cost. This, of course, with the thought of producing a return for the railroad from a piece of property instead of its use continuing only as an expense.

"In and around passenger stations and in our yard layouts, we may occupy

more space than required. The construction cost may not be warranted by any savings in the cost of operations alone. However, when construction cost in air rights is considered, along with the possible savings in operating costs, such savings may warrant the change in operations and may also make the development attractive to a buyer."

• **RR operations can't stop.** A primary responsibility of the engineering department is to keep the railroad running during construction. Quite often, that is a task of mammoth proportions. The Prudential Building, for example, had to be built while IC maintained its suburban passenger service. "Since the Prudential Building was constructed, in part, over our electrified suburban tracks on which over 300 trains were operated per day," says Mr. Trissal, "it presented the most difficult staging project we will have to face in the entire Chicago area. The construction was divided into 65 separate steps and operations, each of which was carried out in a prescribed sequence."

In the construction of the Pan Am Building, says C. E. Defendorf, New York Central's chief engineer, it was "the responsibility of the railroad to see to it that the structure, design, including the wind bracing, and all phases of the construction procedure, were analyzed so as to permit the railroad to operate safely and to maintain train schedules; and to see that passengers were in no danger from construction in the terminal area."

The Pan Am Building utilizes 200 columns from a structure which formerly stood on the site, plus 99 new columns, all "isolated from the track structure throughout their length so as to prevent vibration transmission." All the columns rest on vibration pads.

• **Municipal interest.** The magnitude of the air rights projects makes them of prime concern to cities. The multimillion-dollar structures bring in large sums of tax revenue, in some cases from land that had not been producing much tax. Illinois Central's lakefront property, for example, currently produces no income for Chicago because, being charter property, it pays only a state tax of 7% on revenues. Mr. Trissal estimates the city will collect more than $12 million a year from the property when it is developed. For some cities, air rights is one method of revitalizing the core area. The Long Island's outmoded Flatbush Avenue passenger terminal in Brooklyn is in the heart of a section proposed for urban renewal. The road hopes to trade its air rights there for "the better track and station facilities we need and which the new urban redevelopment certainly would demand."

The city also is purchasing air rights over Long Island's Bay Ridge Freight line (below grade) for construction of an addition to municipally operated Brooklyn College and is acquiring an adjacent block-long area for a public recreation field.

Chicago last year classified all air rights as planned developments in its zoning ordinance. Illinois Central, Chicago's department of city planning and the developers who have options on IC property are jointly sponsoring a study that will outline the planned development of the air rights property. Comments Mr. Trissal: "It is the firm belief of the five parties involved that such a study will result in a plan that will make use of the property in a manner that will fit in with the over-all city plan and still provide developers with sufficient financial incentive to encourage them to go forward with their projects." Cost of the study, to be made in three stages, is $100,000. It already has produced one significant result. "At one of the early meetings," Mr. Trissal states, "it was decided that the architects should progress their study without regard to the restrictions of the Lake Front Ordinance. As a result, planning has gone forward on the basis of covering the entire area with a platform with vehicular traffic at the mezzanine level. This increases the area available for development about 12.5 acres, or 26%."

Cities have air rights, too

Cities eventually will become directly involved with air rights, predicts Mr. Boisi: "Air rights are going to develop to such an extent that cities are going to recognize the value of their own air rights. Cities have a lot of air rights property and the day is going to come when they will take a good look at developing it."

Says a Canadian National spokesman: "Many cities are anxious to redevelop their downtown areas. In the case of Edmonton, that city's plan includes an office complex on the site of or close to our present station. Our decision to allow development of our station area, with a 25-story building, fits right in with the redevelopment of downtown Edmonton." Planned for the Edmonton site is a 25-story, $8-million tower building, the city's first skyscraper and the largest office complex west of Toronto. Work will begin next spring and will be completed in two years.

Webb & Knapp Limited, a company formed by William Zeckendorf primarily to develop CN's Place Ville Marie site, spent $360,000 in 1956 on a master plan for the 22-acre terminal area in downtown Montreal. It had been a long-standing policy of CN to achieve an integrated development of the property.

A survey of downtown Detroit revealed a need for housing in the area, and Mr. Boisi says New York Central is investigating the possibilities of an air rights development in that city.

In Weehawken, N.J., the NYC has plans for a piece of property that once served as a transfer point for rail-ferry service. "We have something cooking there," Mr. Boisi comments, "but it hasn't cooked yet." In a publication on the Weehawken site, New York Central says its middle-income housing project atop the 40-acre Mott Haven Yard and the 35-acre development over its 60th Street yard in Manhattan are "dwarfed in land area by the railroad's extensive property on the west bank of the Hudson River. In fact, when measured in terms of mid-Manhattan cross streets, this 250-acre parcel nestled in the Palisades extends north from 37th street to 70th street." Proposing a housing project for the site, Central says "the entire area should be developed according to a master plan. This plan would provide for all services and facilities that a project of this size would require and would have the approval of local municipalities." The road's projections for the site would devote 150 acres to residential use (divided into neighborhood units of 8-12 acres each), which would accommodate approximately 62,000 people. The remaining 100 acres "could well include extensive department stores and supermarkets, hotels and marinas, educational, religious and medical and other buildings."

Projecting such developments has become a vital function of New York Central's real estate department, as it has in the engineering and real estate departments of other roads. Mr. Boisi's sum-up of the new situation: "When I took over the department, it was called the Land & Tax Department. I changed it to the Real Estate Department, and it was more than just a change in name. It was a change in attitude, philosophy. We're now a development department instead of a custodial department. We operate like a private real estate company. We're using pretty much the same people we had, but we've given them a new point of view."

New points of view are constantly cropping up in air rights development. Mr. Boisi, for example, used to describe his theory as the dual utility of land. "Since then I've discovered that the land can be put to other uses, and I call it the theory of multiple use of land. You can use the land at three levels: below ground, up to 50 feet for commercial use, and above that for apartments."

Microwave continues fast pace

U.S. and Canadian systems are reaching the 15,000-mile mark.

Microwave as a means of providing weatherproof, high-capacity communications has created tremendous interest among railroads. U.S. railroads have 5,056 route miles of microwave systems in operation, according to a report presented at last month's Communication and Signal Section, AAR, meeting. An additional 3,725 route miles of microwave are authorized or under construction by U.S. railroads.

Canadian railroads, according to Railway Age sources, have approximately 2,800 route miles of microwave communications in operation, with an additional 3,000 miles under construction.

Why the great interest in microwave? Quite simply, it is the greater need for railroad managements to be fully and promptly informed of conditions on their railroads. This need has spurred purchases of data processing systems, direct distance dial telephone networks, and other means of rapid communications. Communications, the nervous system of a railroad, says one rail officer, is playing a more important role than ever because of the railroads' competitive drive for traffic. Key to traffic, he states, is greater freight car utilization which depends in large part upon good communications. "To maintain the service at a profit, we've got to keep these large, specialized cars loaded and moving. They are too expensive to lose because of poor communications," says one operating officer.

● **Microwave outlook.** Estimates are that railroads will spend $2 million for microwave equipment each year during the next decade. Indications are that 500 route miles of microwave systems will be installed in each of the next 10 years.

What is microwave? It is beamed radio operating above a frequency of 890 million cycles per second (called megacycles). Line-of-sight transmission is normally required. An exception is a scatter technique in which the beam is directed toward the sky and bounces off the tropospheric layer (30,000 to 60,000 feet in altitude) to a receiving station. Louisville & Nashville has such a system for handling CTC controls and indications between Georgiana and Mobile, Ala., 101 miles.

Microwave is most adaptable for through or trunk circuits. Most everyone agrees that microwave stations placed 10 to 40 miles apart provide good dependable service. Systems now available can provide up to 600 voice channels—thus, these systems are considered by many communications men to be the means to provide the high capacity required for direct distance dial telephone networks and data transmission.

At the present time, majority opinion favors microwave for through communi-

U.S. railroad microwave in operation

RAILROAD	ROUTE MILES	LOCATIONS
AT&SF	68	Galveston-Beaumont, Tex.
	561	Argentine, Kan.-Amarillo, Tex.
	819	Winslow, Ariz.-Los Angeles, Calif. Barstow-Bakersfield, Cal.
C&NW	55	Chicago-West Chicago-Crystal Lake, Ill.
CRI&P	135	Goodland-Phillipsburg, Kan.
D&RGW	759	Pueblo-Denver, Colo. to Ogden-Salt Lake City, Utah
L&N	101	Mobile-Georgiana, Ala.
	2	Latonia, Ky. (radio controlled cab signals)
MKT	55	McAlester-Muskogee, Okla.
MP	6	St. Louis, Mo.-Dupo, Ill.
NYC	12	Avon Yard-Indianapolis, Ind.
PRR	24	Phoenixville-Reading, Pa.
RDG	14	Piscatawny-Port Reading, N.J.
SP	17	Black Butte-Dunsmuir, Calif.
	38	Mary's Peak-Eugene, Ore.
	261	Los Angeles-Fresno, Calif.
SOU	136	Adel-Valdosta, Ga. to Live Oak, Fla.
	827	Washington, D.C.-Atlanta, Ga.
UP	1,000	Omaha, Neb-Salt Lake City, Utah
	166	Portland-Hinkle, Ore.
Total	5,056	

Source: Communication & Signal Section, AAR.

U.S. railroad microwave authorized or under construction

RAILROAD	ROUTE MILES	LOCATIONS
AT&SF	616	Amarillo, Tex.-Winslow, Ariz.
C&NW	64	Crystal Lake, Ill.-Milwaukee, Wis.
NP	138	Seattle, Wash.-Portland, Ore.
SP	233	Fresno-Oakland, Calif.
	308	San Francisco-Sacramento-Dunsmuir, Calif.
SOU	954	Cincinnati, Ohio-Atlanta, Ga.-Knoxville, Tenn. Chattanooga, Tenn.-Birmingham, Ala.
UP	1,412	Salt Lake City, Utah-Los Angeles, Calif.-Pocatello, Ida.-Hinkle, Ore.
Total	3,725	

Source: Communication & Signal Section, AAR.

C&NW microwave antenna alignment being tested at Chicago terminal.

cations, and a pole line for local communications and signal circuits. Some railroads planning for microwave will eliminate their pole lines. They will use VHF radio for communications between trains and wayside stations. These roads would place their signal circuits in underground cable.

● **C&NW microwave.** Typical of the new microwave installations is a 55-mile system recently completed by the Chicago & North Western. Microwave was installed between the road's Chicago headquarters; West Chicago, Ill. (29 miles west) and Crystal Lake, Ill. (26 miles north of West Chicago). A microwave repeater station at Proviso (site of the road's retarder classification yard) is 14.1 miles west of Chicago.

Immediate benefits of the microwave installation include the retirement of several hundred wire miles of physical lines, and the providing of a 55-mile weather-proof and interference-free bridge to the road's long-distance circuits running west and northwest from Chicago. For example, the microwave system enabled the road to eliminate eight pairs handling physical and carrier telephone circuits and 12 physical wires handling printer and Morse circuits. East of Proviso, a 78-pair cable of 13- and 16-gauge wire was replaced by a 25-pair, 19-gauge underground cable.

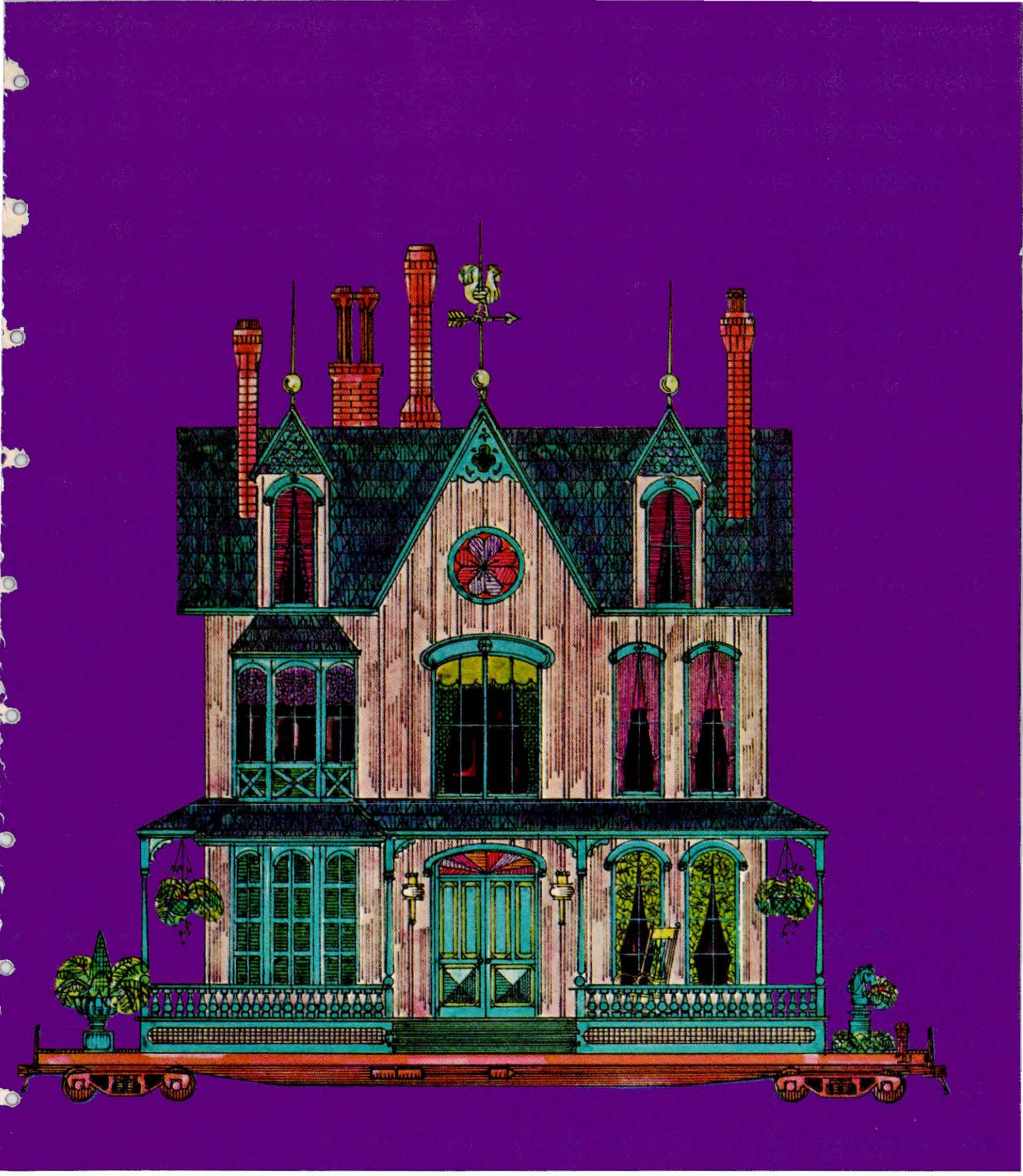
The Chicago terminals of wire-line carriers providing dial tie lines to Clinton and Boone, Iowa as well as to 4-wire switching equipment at Missouri Valley, Iowa, were moved to the West Chicago microwave terminal and connected on a back-to-back, 4-wire basis with the multiplex equipment. All through circuits beyond West Chicago, including two sections of double track CTC, were transferred from physical circuits or wire line carrier to microwave for the Chicago-West Chicago section. Similarly, all circuits beyond Crystal Lake, including dial tie lines and printer circuits to Madison, Wis., and St. Paul, Minn., were re-routed via microwave to Crystal Lake, Ill.

● **Chicago microwave terminal.** At Chicago, the microwave terminal is in the C&NW station, with the dish antenna mounted atop the depot building. The microwave signal is beamed toward a passive reflector atop the 24-story Riverside Plaza building (formerly the Chicago Daily News building). The Proviso repeater station, known as Berkeley, has a 230-foot guyed and lighted tower for the passive reflectors which direct the microwave signals down to dish antennas on a 10-foot stub tower. The Motorola transistorized microwave system, using hot standby, is type MR 50 RF equipment with type MC 50 multiplex, and is in an existing building.

The microwave equipment at each station is fed 48 volts DC regulated, from a Fansteel silicon charger, operating on 230 volts AC, single phase. A minimum of eight hours of standby operation is provided by 23 lead-calcium cells rated at 300 ampere-hours.

Because of the reliability of commercial power through alternate feeds at Chicago and Proviso, no standby engine generator is provided to furnish AC power. However, at West Chicago and Crystal Lake, Kohler propane-gas engine generators can pick up the load within 6 seconds after failure of the commercial power. This unit provides 5 kilowatts at 230 volts AC for the Fansteel charger and all other AC requirements, exclusive of heating and air conditioning. The dish antennas are on the roof of the buildings housing the microwave equipment at West Chicago and Crystal Lake. A 280-foot guyed steel tower supports the passive reflectors, as well as VHF antennas at West Chicago and at Crystal Lake. Tower lighting is in accordance with Federal Aviation Agency regulations.

Between Chicago and Proviso, 24 channels are wired but only 15 are equipped: 10 dial trunks, one dispatcher phone, three dial stations and one CTC circuit. Twenty-four channels between



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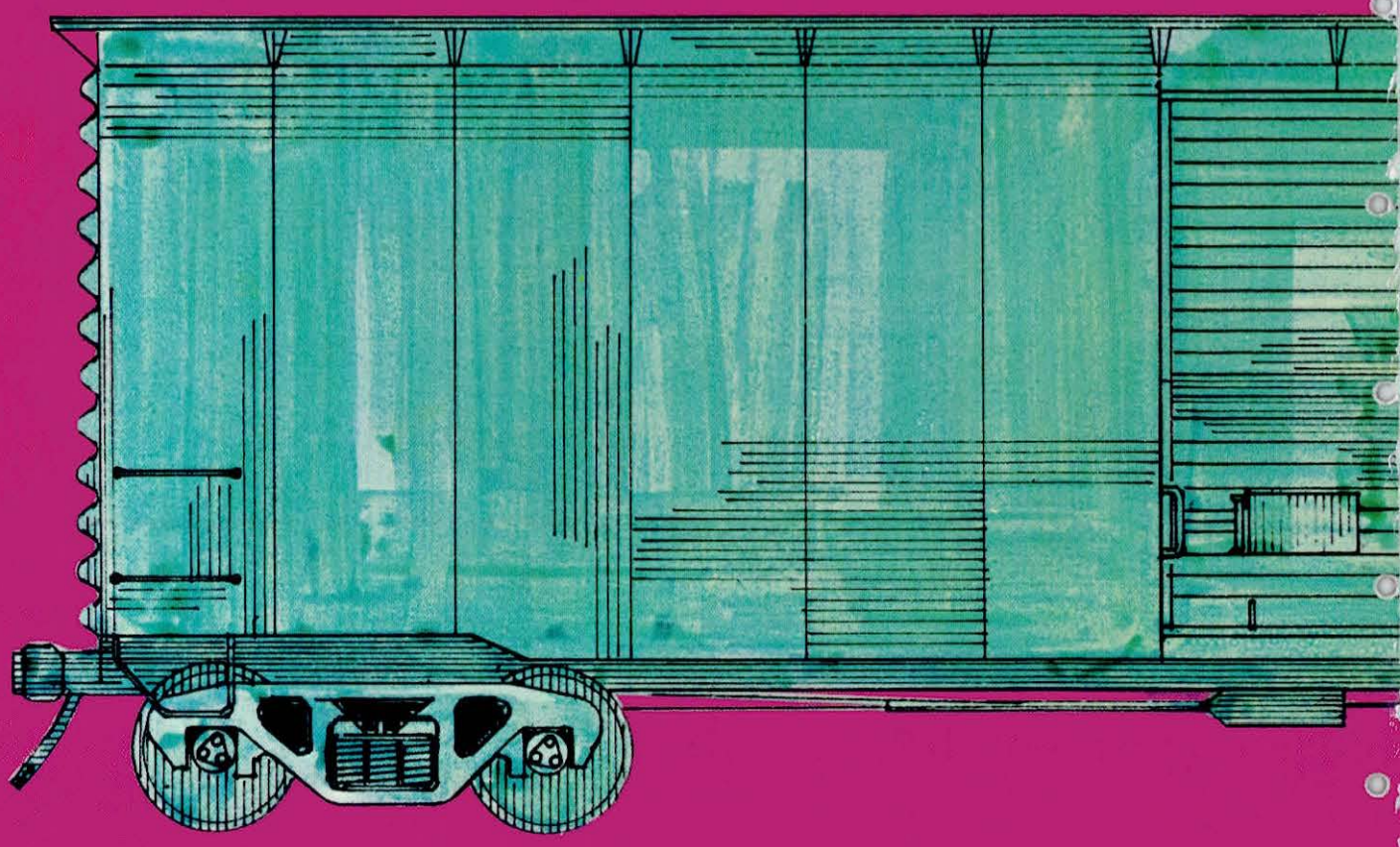
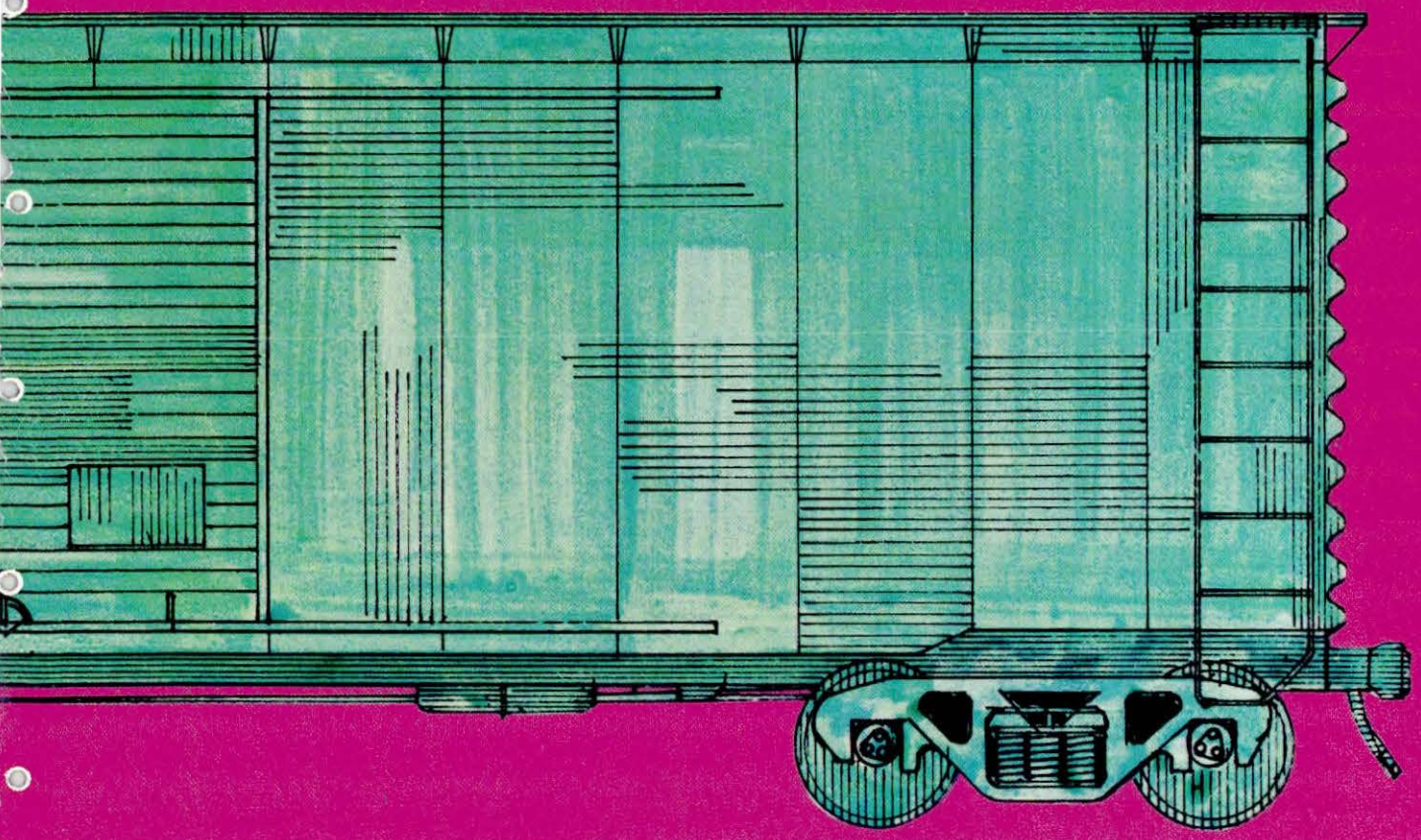


the kind you want.



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icago and West Chicago are wired, which 16 are equipped: four dial stations off the Chicago PBX, two ringdown circuits west, one dispatcher circuit, one tone dial message circuit, two CTC circuits (W. Chicago-Nelson), and six dial tie lines to Iowa points. At Crystal Lake, twelve channels are completely wired, although only eight are equipped: four dial tie lines to Madison, Wis. and St. Paul, Minn.; a dispatcher telephone circuit, a dial station off the Chicago PBX, a ringdown circuit to Madison, Wis., and a tone dial message circuit to Williams Bay, Wis.

• **Alarm system.** Moore Associates alarm equipment operating in the 10.5-11 kilocycle band alerts communications personnel at the Chicago telegraph office of various malfunctions. The following functions are checked by the alarm system for the Proviso station: battery chargers (and AC failure); illegal entry; fuse alarm; multiplex rack No. 1 (multiplex groups 1 and 2); tower lights; and RF alarms east and west. The following are checked by the alarm system for the West Chicago station: battery charger (and AC failure); illegal entry; fuse alarm; carrier regulator alarm; multiplex rack No. 1 (multiplex groups 3 and 4); tower lights; and RF alarms east and north. Similar functions are reported from Crystal Lake.

When an alarm occurs, a red light (station in trouble) and a white light (a fault has occurred) are lighted and a buzzer sounds. Operating a toggle switch cuts out the buzzer and white light. Turning a selector knob will cause an amber light or lights to be lighted indicating which particular function is in trouble. After the trouble is corrected, the amber lights and the red light (for the particular station) will be extinguished. Alarm relays at Proviso, West Chicago and Crystal Lake can be reset from Chicago by means of baseband order wire signaling.

Operating at 4 kilocycles and 6.5 kilocycles above the order wire is Radio Frequency Laboratories carrier telegraph system applied directly to the baseband to provide the following circuits: two printer and two Morse circuits, Chicago-Proviso; two Morse circuits to West Chicago; and two printer circuits to Crystal Lake.

The microwave equipment was furnished and installed by Motorola Communications & Electronics, Inc. All buildings and power requirements were furnished by the railway company. Rearrangement of existing communication facilities was performed by railroad forces under the direction of T. M. Evans, communications engineer. The entire project was under the supervision of B. R. Meyers, vice president and chief engineer, C&NW.

RAILROADING AFTER HOURS WITH JIM LYNE

LYNE

DEDICATED RAILROADERS—There are some people who railroad primarily in anticipation of pay day, but there are others who have other motives besides. For instance, I have a couple of friends who found themselves in Mexico City on a recent Sunday—with a fine opportunity for artistic sightseeing; or to attend a bull fight.

Instead what they did was to ferret out a narrow-gauge railroad, steam-powered, on which they took a ride out into the country. They rode the rear (open) platform of a wooden coach on the outbound trip. On the way back the train was a mixed one—a coach, 25 carloads of pulque and a caboose. These fellows talked themselves (by sign language) into the engine cab for part of the trip, and rode the caboose with the train crew the rest of the way. Incidentally, they were treated to a sample of pulque—and from what they say of the experience, I believe they run no grave danger of becoming addicts.

Anyhow, these fellows and thousands of others like them all over the country prove that there are faithful railroaders who find a lot in the industry to interest them besides what they get on pay day.

FASTER PLANES FOR PRESTIGE—There seems to be a big hustle going on to get Uncle Sam to spend more billions more quickly, to develop for our airlines a faster plane than foreign competition is threatening to come up with relatively soon. Apparently it is national prestige that has to be protected (with, of course, incidental advantages on the side to the aviation manufacturers and the airlines). Being perhaps not wholly convinced that airplane speed can be accepted as the principal gauge of national prestige, I kind-of feel that the super-railroad the Japanese are building casts an oriental shadow on U.S. prestige—fully as big as any that would come from their producing an airplane of the Mach 2 or 3 speed before we do.

WATERWAYS IN BRITAIN—I've been reading in the Journal of the Institute of Transport (Britain) a piece by the assistant general manager of the British Waterways Board.

Annual outlays are shown at $11 million and revenues at a little less than $9 million. This is obviously not a profitable business—but it is a gold mine compared with waterways in the U.S., where government spends hundreds of millions and gets no revenue at all. As in the U.S., Britain's waterways (2,000 miles in total) seem to be useful principally for drainage and fishing—the purpose for which they were designed by the Creator, in the days before the ingenuity of the pork barrel boys discovered that they had other possible uses.

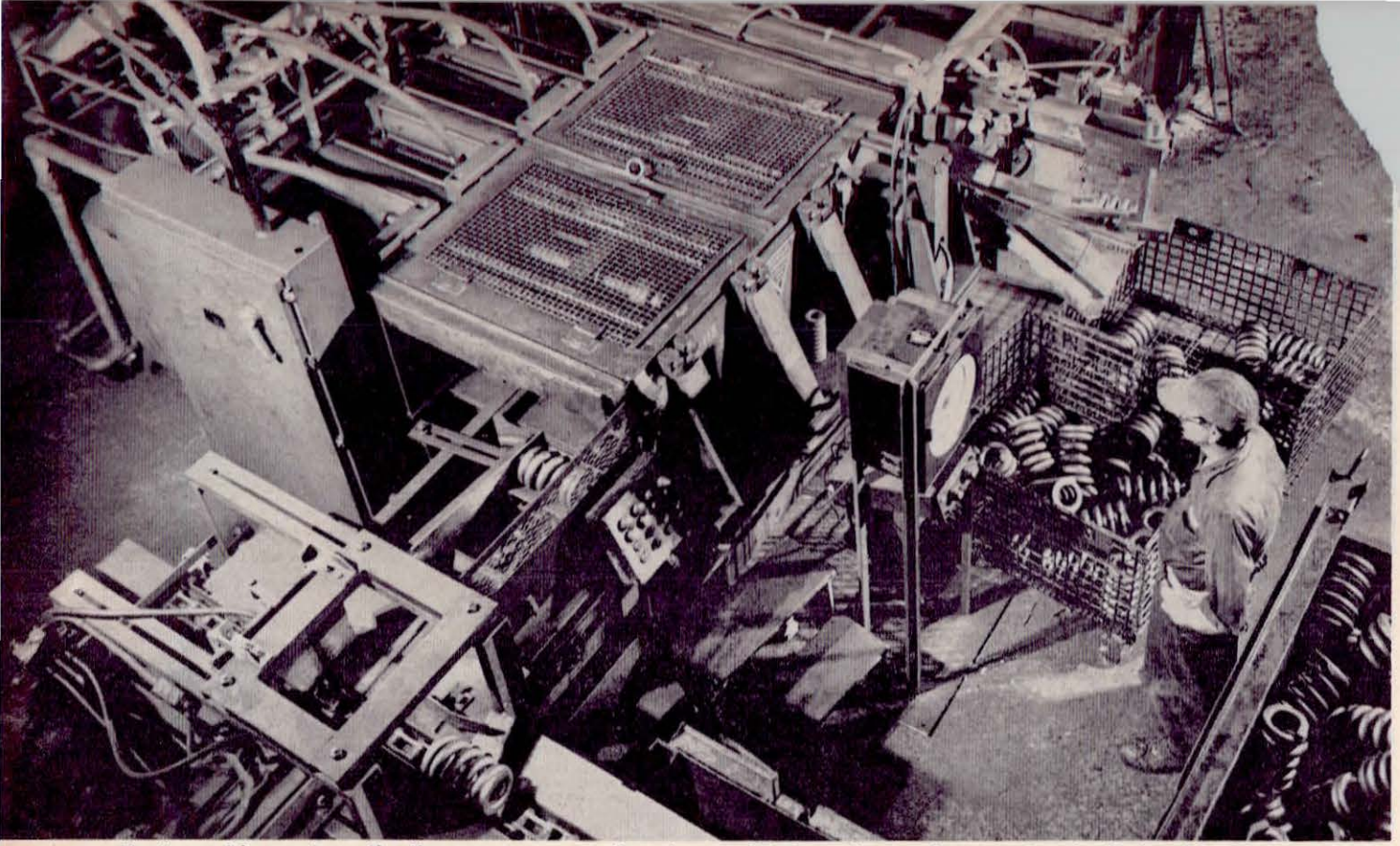
DYNAMOMETER CAR—On my continuing prowl for explanations, simple enough for me to understand, of the mysteries of computers (and their occult accompaniment called "cybernetics") I ran across a recent piece in the New Yorker magazine that came close to filling the prescription.

The article disclosed that the principles on which computers operate are not dependent on such recent developments as electronics—but were pretty completely figured out (and, in part produced) over a century ago by an Englishman named Babbage. His designs would have done their calculating by connecting gears, much like an old-fashioned adding machine. The Babbage computer, if it had been built, would have been steam-driven.

What was real news to me was the statement that this pioneer Babbage was an associate of the famous railway engineer, Isambard Brunel (who built Britain's Great Western Railway), in the development of the dynamometer car.

RATE-MAKING IN 1858—The New York and Erie Railroad issued in 1858 a tariff (shown to me by NYC's Art Crookshank) covering a wide variety of products which it held itself out to haul from Buffalo to New York at rates ranging from 35¢ to 90¢ per 100 pounds. The higher rate covered fresh meat (carried at owner's risk) and "articles not enumerated."

The tariff was accompanied by a letter from the NY&E general freight agent to the general freight agent of the New York Central, asking the latter officer to advise by telegraph if the proposed rates were approved. So, it seems, over a hundred years ago, railroad people had already discovered that orderly pricing of their services required some consultation between competing carriers.



Test machine automatically compresses coil springs solid three times, then electronically load tests every spring

How Crucible tests its springs

Electronic equipment automatically tests, under working loads, every freight car truck spring, rejecting any spring not within the spring-height limits established by the AAR specifications.

With freight car loads getting heavier it is important that each truck spring carry its share of the load. One way of making sure that each can do its job is to load test every spring leaving the production line. Crucible Steel Company is doing just that at its Spring Division's Pittsburgh, Pa., plant, using electronic testing equipment installed about a year ago.

• **AAR specifications exceeded.** The 100% testing of springs under working load at the plant not only exceeds the AAR spring specification's requirements, it guarantees improved spring quality. Since installation of the electronic testing equipment, Crucible has found it necessary to put tighter controls on its production methods and procedures to keep rejections by the electronic "inspector" within acceptable limits.

All Crucible springs are made to AAR Mechanical Division Specifications M-114, revised in 1962, which establish manufacturing standards, chemical and physical requirements, and test procedures. Before testing, the springs must conform to the requirements for workmanship, finish and end construction. From each group of springs (500 coils or fraction thereof), however, the specifications say that the inspector "may select 10% to be tested in accordance with the requirements of Sections 13 and 14." These sections specify measurements and permissible variations of free height, solid height, and loaded height. In other words, there is no requirement for 100% load testing in the specifications.

• **Four testing positions.** In the Crucible production line, bar stock is tapered, coiled, heat treated and shot peened to meet the requirements of the specification. After the shot-peening operation the springs move automatically by conveyor to the electronic testing equipment. There, another conveyor picks up each spring and carries it through four positions in the equipment.

At the first three positions in the sequence each spring is compressed solid to meet the pre-inspection requirements of the specifications. At the fourth position the spring is electronically tested for load at working height.

AAR Specifications M-114 spell out the permissible variations in spring height under load for outer and inner springs for each spring type. Crucible's electronic-test equipment rejects any spring not meeting the AAR tolerance of the loaded height range. Because the springs are compressed by hydraulic rams to a precise length, the loaded height tolerance for each spring type is converted to equivalent load variations.

• **Automatic sensing.** The equipment senses all loads and automatically kicks springs showing out-of-tolerance loads into reject bins. As an example, during a recent inspection of the equipment a spring was rejected. The reason: The spring end had a taper thickness considerably above normal, which probably caused the spring to exceed the maximum permissible loaded height. Its being "high" was later verified by manual testing of the spring on a laboratory load tester.

All springs passing the load test roll out of the equipment to a final inspection station where a trained inspector checks them for workmanship and finish.

More integration of Pan American roads?

The Pan American Railway Congress Association, at its recent session, talked about restructuring itself to enable it to work for more coordinated rail services. The proposal will be studied.

A more closely integrated Latin American railway network may result from action initiated at the recent XI Pan American Railway Congress (RA, Nov. 4, p. 13).

A proposal to restructure and strengthen the Pan American Railway Congress Association—to permit it to work actively toward coordination of rail services—was debated during the closing sessions of the Congress. The channeling of aid to underdeveloped rail systems would be part of the overall plan.

No final decision was reached on the proposal; but it was agreed that a committee of representatives from member republics will meet in Buenos Aires within six months to consider the proposal in detail.

The plan was advanced in a joint resolution by the delegations from Argentina, Chile, Peru and Bolivia. It was widely viewed as a significant move toward the kind of railway integration which Europe, for example, has achieved by various means, especially through the International Railway Union (UIC).

• **Prize papers.** As the 14-day meeting came to a close, prizes were awarded for the top papers presented to the Congress. Eight of the winners were from the United States. Cash prizes and diplomas went to two Pennsylvania officers—John C. McMichael, manager—freight rates, and C. J. Code, assistant chief engineer-staff. Mr. McMichael wrote on "A Suggestion for a Simplified Freight Rate Tariff Designed to Assist United States Railroads in Recovering Traffic Now Moving in Private Carriage." Mr. Code's paper was on "Effect of Modern Diesel Locomotives and Heavy Carloads on Light Rail."

James N. Sites, assistant to vice president—public relations, AAR, won a gold medal and a diploma for his paper, "International Trail to Super-Transport Service."

Diplomas went to G. W. Baughman, of Westinghouse Air Brake; William B. Saunders, economic consultant; Stanley H. Barriger, industrial engineer, Missouri Pacific; Herbert O. Whitten, senior consultant—revenue research, Chesapeake & Ohio; and R. C. Karvwatt, director of communications, New York Central.

• **Suppliers attend.** U.S. railway suppliers were well represented at the Congress. Among those attending were:

Arthur A. Batts, director of public relations, Alco; R. R. Baker, vice president, Pullman Standard International; M. M. Botnick, vice president—export, Silent Hoist & Crane Co.; Ake J. Brandt, American SAB Co.; B. B. Brownell, Electro-Motive Division, General Motors; John D. Cannon, president, Morton Manufacturing Co.; H. P. Casey, vice president—sales, Symington Wayne; Donald N. Chamberlain, international vice president, Alco; Noel Concordet, managing director, Vapor International; Calvin Coy, chief engineer, Kalamazoo Manufacturing Co.; T. H. Cox, Jr., general manager, W. T. Cox Co.; Lucas A. Damasio, marketing manager for Latin America, Westinghouse Air Brake Trade Corp; Mark S. Downes, general manager—sales, Railway Division, Timken; Milton Edwards, president, and Herbert Edwards, vice president, Edwards International Corp.; W. A. Enstrom, general manager, Pettibone Railroad Division, Pettibone Mulliken.

Robert E. Florine, director of export sales, Whiting Corp.; Gregory Gagarin, assistant vice president, foreign operations, W. H. Miner Inc.; Arthur E. Gasparini, sales executive, General Motors Overseas; Stuart Gee, manager marketing, locomotive section, General Electric; Cy Hankins, former president, Wine Railway Appliance Co.; Duane M. Hart, export sales manager, Westinghouse Air Brake Trade Corp.; Karl N. Heimback, manager foreign operations, General Railway Signal; R. E. Keller, vice president, Kalamazoo Manufacturing Co.; W. J. Keller, export manager, Pettibone Mulliken; Donald Kittredge, assistant vice president, international division, National Castings Co.; Goran S. Kvarnstrom, assistant to the president, American SAB Co.; G. M. La Riviere, coordinator of foreign sales, Electro-Motive Division; Edward H. Lehman, first vice president, W. H. Miner Inc.; William F. Lewis, president and chief operating officer, Alco; Tom Mabry, general manager, Engineering Equipment Co.

Leonard Marquardt, vice president—sales, W. H. Miner Inc.; Gene Martin, public relations, Electric Storage Battery Co.; R. E. Martinsen, sales engineer, International Division, Timken; William G. Miller, chairman and chief executive officer, Alco; R. Pennell, vice president, International Division, Electric Storage Battery Co.; Dan Polderman, export consultant, Whiting Corp.; John W. Porter, vice president, General Railway Signal; J. L. Rose, sales manager, General Motors Overseas; W. J. Saxonmeyer, manager Railroad Equipment Division, Whiting Corp.; Gordon Seavoy, vice president of marketing, Whiting Corp.; E. J. Seifert, president, Pettibone Mulliken; V. B. Socol, manager transportation sales, General Electric; Arthur W. Taff, assistant manager of foreign operations, General Railway Signal.

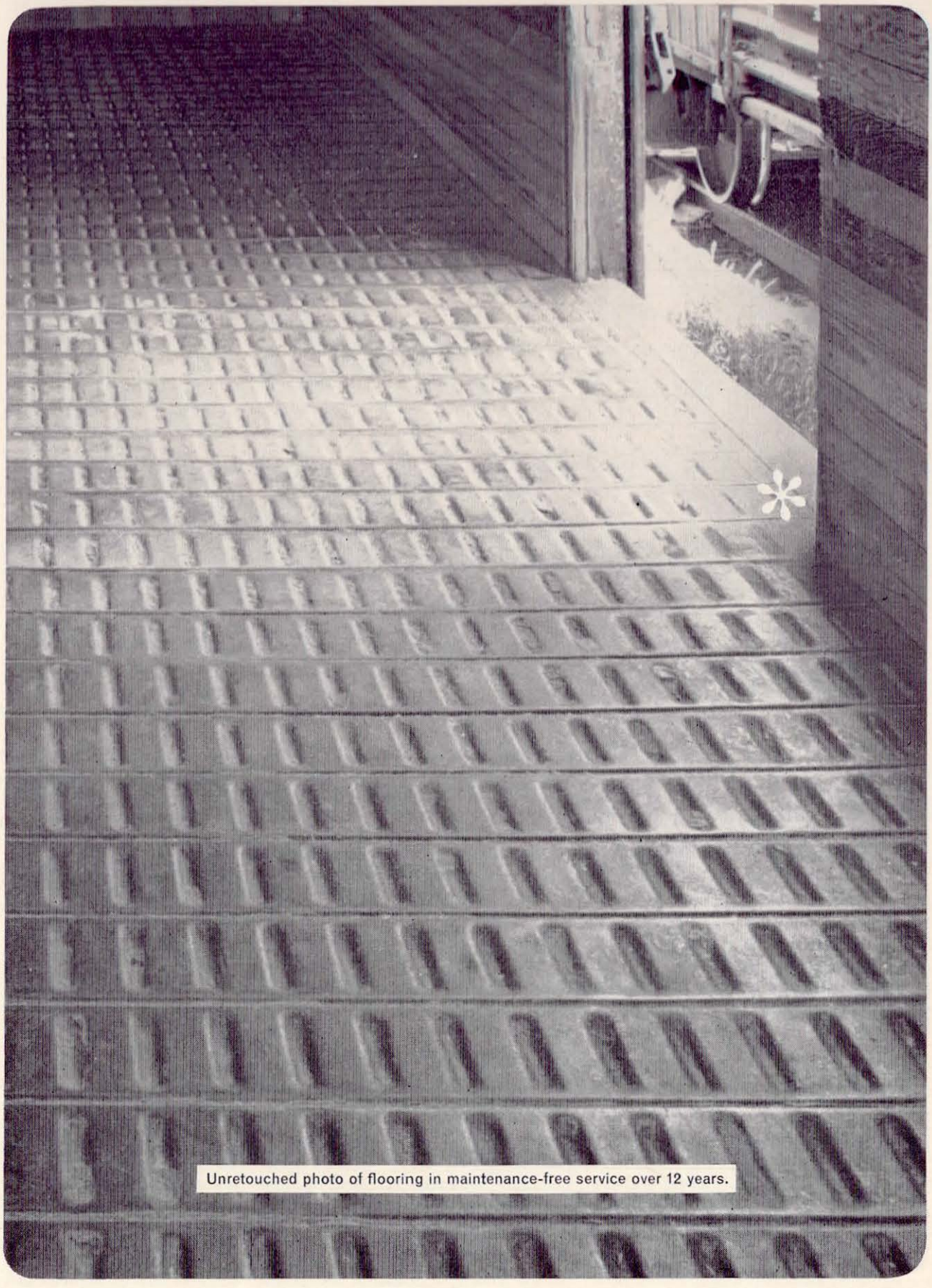
Richard L. Terrell, vice president of General Motors and general manager, Electro-Motive Division; William J. Trongeau, executive vice president, W. H. Miner Inc.; Arthur Williams, president of Stanray Corp.; William E. Withall, president, W. H. Miner Inc.; George C. Wolff, export manager, Baldwin-Lima-Hamilton Corp.; and Richard T. Zande, manager for Latin America, Alco.

Paris meeting told of NYC's data system

An international conference on railway automation meeting in Paris got news of a significant development in America from New York Central president Alfred E. Perlman.

Experts were gathered in the French capital from as far away as Poland and Australia to attend the International Symposium of Railway Cybernetics sponsored by the Union Internationale des Chemins de Fer. Mr. Perlman, heading up the U.S. contingent, told the assembled delegates of an electronic device developed by NYC's communications department, which eliminates human error during data transmissions, and cuts in half the time needed for business machine transmissions.

The device—known as an "Intercoupler,"—utilizes an electronic memory system which can select and delete specific data as needed, and can also introduce spaces between data for easier readability.



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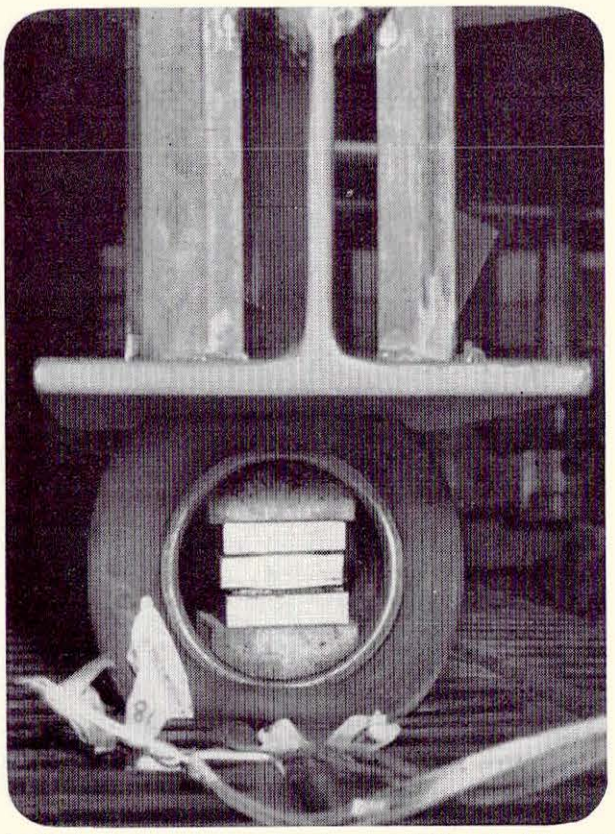

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Alfred James, Jr.
L&N

Leo T. Crowley
Milwaukee

William J. Quinn
Milwaukee

William D. Sunter
Milwaukee

Edgar W. Chesterman
Milwaukee

Roy B. Johnson
UP

PEOPLE IN THE NEWS

CHICAGO & NORTH WESTERN.—**J. Wollard,** assistant trainmaster, Galena division, Madison, Ill., named trainmaster, Twin Cities division, Superior, Wis., succeeding **L. L. Tobin,** resigned.

LOUISVILLE & NASHVILLE.—**Nicholas C. Kieffer, Jr.,** assistant director of industrial development, appointed manager of industrial development, Louisville, Ky. **George R. Wurtele,** industrial agent, named general industrial agent—Lines South, with headquarters remaining at Birmingham, Ala. **Arthur B. Crowe,** administrative assistant in the industrial development department, named industrial agent, Louisville. **James C. Pickett,** staff assistant in the executive department, appointed administrative assistant to the manager of industrial development, Louisville.

Alfred James, Jr., director of industrial development, appointed assistant general manager—transportation.

MILWAUKEE.—Effective Dec. 31, **Leo T. Crowley** will relinquish his duties as chairman of the board and that position will be abolished (RA, Oct. 28, p. 56). **William J. Quinn,** president, will assume the combined responsibilities of chairman and president. Mr. Crowley will continue to serve the company as a director and chairman of the finance committee.

William D. Sunter, general freight traffic manager, sales and service, appointed general traffic manager with jurisdiction over sales-service and rates-divisions, with headquarters remaining at Chicago. **Edgar W. Chesterman,** director of automotive and rail-highway traffic, Chicago, named assistant general freight traffic manager, sales and service there.

Richard G. Graham, district freight and passenger agent, Oakland, Calif., named general agent, San Francisco.

MISSOURI PACIFIC.—**K. M. Converse** named terminal superintendent, Little Rock Terminal division, North Little Rock, Ark.

NEW YORK, SUSQUEHANNA & WESTERN.—**Herbert J. Draney** elected vice president and comptroller, Paterson, N.J., succeeding **M. J. Murphy,** who retired Oct. 10 after 53 years of service. Mr. Draney was formerly assistant secretary and assistant treasurer, and auditor revenues and disbursements. **Miss Catherine A. Lyons** appointed assistant secretary. **Archie W. Tuthill,** assistant auditor revenues and disbursements, appointed auditor of revenues and disbursements.

NICKEL PLATE.—Has established a sales and service office at Charlotte, N.C. **Cecil Z. Deweese,** traffic representative, is in charge of the new office, at 3809 Weona Avenue.

NORFOLK & WESTERN.—**William J. Lanham,** commercial agent, Richmond, Va., promoted to district freight agent there, succeeding **Francis D. Merchant,** retired after 43 years with the N&W.

NORFOLK SOUTHERN.—**Kenneth D. Smock** appointed sales representative, Room 506, 30 Church Street, New York, succeeding **Ralph P. Wales,** retired.

PENNSYLVANIA.—**Frank J. Roth,** general passenger agent, Pittsburgh, Pa., transferred to New York, where he will be in charge of the passenger and mail operations, New York Region. He succeeds **William G. Presley,** named manager of freight rate service, system offices, Philadelphia.

SANTA FE.—**R. L. Broomfield** named acting signal engineer, Amarillo, Tex., to replace the late **H. A. Appleby.**

W. M. Orr appointed trainmaster-road foreman of engines, El Paso, Tex., succeeding **H. G. Crawford,** trainmaster retired.

SEABOARD.—**E. P. Holt,** commercial agent, Albany, Ga., appointed district freight agent, Macon, Ga., succeeding **H. G. Stotesbury,** who retired Oct. 31. **C. R. Dolby,** district freight agent, Raleigh, N.C., named assistant general freight agent there, succeeding **W. H. Higginbotham,** who retired Oct. 31 after more than 45 years with the Seaboard. **J. L. Kreis,** commercial agent, Chicago, appointed general TOFC agent, Lake Wales, Fla., succeeding **G. E. Huband,** named division freight agent, Raleigh, N.C.

SOO LINE.—**Claude O. Ebling,** general agricultural agent, Minneapolis, retired Nov. 1.

Wilbur J. Olson, assistant manager, integrated data processing, appointed auditor of revenues, to succeed **John R. Koch,** who retired Nov. 1. **Robert R. Dickinson,** methods analyst, replaces Mr. Olson. **J. G. Perzel,** methods analyst, and **R. A. Schreyer,** traveling auditor, named to the newly established positions of IDP specialists. **J. A. Miller,** methods analyst, named senior methods analyst.

Richard L. Piers, assistant general freight agent in charge of rates on forest products, named assistant general freight agent in charge of rates on manufactured and miscellaneous products, succeeding **Kenneth L. Haney,** who retired Nov. 1 after nearly 40 years of service. Mr. Piers successor is **Harry W. Woelfle,** chief clerk.

SOUTHERN PACIFIC.—**William H. Van Slyke,** assistant trainmaster, Coast division, Salinas, Calif., named supervisor of freight car service, San Francisco.

UNION PACIFIC.—**H. C. Dunfee,** general traffic agent, Oakland, Calif., appointed assistant traffic manager, San Francisco. Mr. Dunfee's successor is **W. M. Cunningham,** general traffic agent, Reno, Nev., who in turn is succeeded by **Paul E. Flescher,** traffic agent, San Francisco. **J. A. Golobick,** general freight and passenger agent, San Francisco, retired.

Roy B. Johnson, assistant passenger traffic manager, Omaha, Neb., appointed passenger traffic manager there, to replace **A. G. Hilker,** retired after 49 years of service. **J. M. Forsha,** assistant general passenger agent, Omaha, advanced to assistant passenger traffic manager at that point. **C. W. Jones,** chief clerk in the passenger traffic department, promoted to assistant to passenger traffic manager.

Supply Trade

E. J. Powell, general sales manager, **Railway Maintenance Corp.,** Pittsburgh, Pa., has been elected vice president—sales, succeeding **R. M. Jenner,** retired.

James E. Cathcart has been appointed assistant to vice president—marketing, **Pullman-Standard division of Pullman Incorporated,** Chicago. Mr. Cathcart was formerly assistant director of public relations and advertising.

The **Korody Marine Corp.** of Hawthorne, Calif., has been appointed by **L'Orange, G mb H,** of Stuttgart, West Germany, to be the exclusively authorized service center in the United States for the Maybach MD diesel injector system manufactured by L'Orange.

Glen Haywood, manager of railroad sales of **Jackson Vibrators, Inc.,** Ludington, Mich., has announced appointment of **B. E. Carey** as district field engineer, Kansas City area, and **R. G. Clawson** as regional service representative, Denver, Colo. Mr. Carey was formerly sales manager for Mannix International, Minneapolis, Minn. Mr. Clawson was a work equipment mechanic with the **Missouri Pacific** at Little Rock, Ark.

Carl E. Reistle, Jr., president, **Humble Oil & Refining Co.,** Houston, Tex., on Nov. 1 was elected chairman of the board and chief executive officer. **J. K. Jamieson,** executive vice president, succeeds Mr. Reistle as president.

Edward A. Holland, New York district manager of **Exide Industrial Marketing Division, Electric Storage Battery Co.,** has been named northeast region manager, New York, succeeding **H. H. Warren,** retired.

James E. Cathcart
P-S

E. J. Powell
RMC

C. O. Whitledge has been appointed president of **M-H Equipment Co., Inc.**, Dallas, Tex., succeeding **J. B. Hutchinson**, who was named chairman of the board and will head the expanded research and development effort of the company. Mr. Whitledge was formerly manager of the Metrology Products Branch of Texas Instruments, Inc.

A new research and development laboratory scheduled for completion in mid-August of 1964 will be devoted to developing advanced systems for handling freight in railroad and truckline terminals, factories, warehouses and manufacturing plants. **Aubrey Chessmore** has joined M-H as development engineer.

William S. Spieth, Jr., sales assistant to vice president, **American Steel Foundries**, has been named to the newly created post of sales manager, AMSTED Research Laboratories, Bensenville, Ill.

I. I. Sylvester has been appointed West Coast representative for **Montreal Locomotive Works, Ltd.**, at Vancouver, B.C.

Joseph E. McKenna has been appointed vice president of marketing, **Huck Manufacturing Co.**, Detroit, Mich.

Glazer Steel Corp., New Orleans, La., has been appointed to represent **A. M. Byers Co.** in the New Orleans area.

Oakite Products, Inc., has added four new technical service representatives to its field force: **Willam C. Oliver**, New England; **Barry Brown**, West Cleveland area; **Robert S. Wold** and **Kent L. Hendrickson**, Twin Cities area. **Fred A. Schnitzler** named advertising manager and **C. Norman Warry**, media coordinator for **Oakite Products**, New York.

Lawrence G. Blackmon, vice president and general manager, Capitol Foundry Division, **National Castings Co.**, Phoenix, Ariz., appointed vice president and general manager, Transportation Products Division, Cleveland, Ohio, succeeding **Mellor W. Stevenson**, elected to the newly created post of vice president—marketing. **Carlisle R. Slater**, in charge of engineering, Transportation Products Division, named works manager, Melrose Park, Ill., succeeding **Edward O. Spahr**, who replaces Mr. Blackmon. **Glenn G. Tenney**, manager, Chicago sales office, appointed also general manager of sales, Transportation Products Division.

John L. Adank has been elected president of **Chemetron Corp.**, Chicago, succeeding the late **James W. Dunham**. Mr. Adank has been president of the National Cylinder Gas division since its formation and a vice president of the corporation since 1947.

Carl D. Ackerman, regional sales manager, **Tote Systems Division of Hoover Ball & Bearing Co.**, Beatrice, Neb., named general sales manager. **F. J. White, Jr.**, regional sales manager, named director of manufacturing.

Stephen H. Kohl, an advertising consultant and copywriter, has been appointed advertising manager, **Racine Hydraulics & Machinery, Inc.**, Racine, Wis.

John J. Bollinger, Midwestern sales representative, Spring Division, **Cruicible Steel Co. of America**, Pittsburgh, Pa., named sales manager of that division, succeeding **John A. Wagg**, appointed general manager, Spring Division, replacing **T. T. Crowley**, promoted.

R. A. Corley, D. W. Hallberg and **Orville Clark** have formed the **Atlantic Railroad Supply Co.**, 24 Commerce Street, Newark, N.J., to represent railway supply companies that serve all departments of the railroad industry.

Harold E. Donovan, railroad sales manager, **Air-Maze Division** of **Rockwell-Standard Corp.**, has transferred from Chicago to Cleveland.

Thomas W. McDowell, Jr., has been appointed a field service engineer for **A. M. Byers Co.**, Ambridge, Pa.

The Wood Preserving Division of **Koppers Co.** has been renamed the Forest Products Division.

Frank R. Postma, sales representative, Detroit sales office, **Okonite Co.**, has been named district manager, Detroit sales territory. **Joseph R. Happley**, sales representative, St. Louis sales office, transferred to the Minneapolis office.

J. O. Biggs, vice president and assistant to the president, **Gustin-Bacon Manufacturing Co.**, has been elected president and chief executive officer. Mr. Biggs, who was also elected a director and named to the executive committee, replaces **J. T. Conlon**, elected chairman of the board. Mr. Conlon succeeds **A. L. Gustin, Jr.**, who will serve as a director and chairman of the executive committee.

OBITUARY

James Logan Cranwell, 58, who retired in 1961 as a vice president, **Pennsylvania**, died Oct. 29 in Sarasota, Fla.

William C. Gramm, 61, who retired last February as auditor of disbursements, **Reading**, died Oct. 27 at Montgomery Hospital, Norristown, Pa.

E. W. Hoster, Jr., sales representative, **Buckeye Steel Castings Co.**, Columbus, Ohio, died there on Oct. 27.

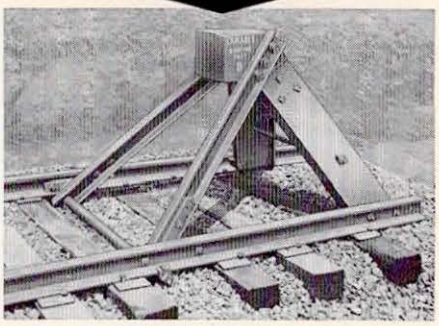
John E. Murphy, 70, retired manager of freight traffic, **Pullman Co.**, died Oct. 28 in Holy Cross Hospital, Chicago.

Daniel J. O'Connell, 64, retired manager, **Western Weighing & Inspection Bureau**, died Oct. 31 in Illinois Masonic Hospital, Chicago.

John J. VanBockern, 64, general manager, **Davenport, Rock Island & North Western**, died Oct. 24 in St. Luke's hospital, Davenport, Iowa.

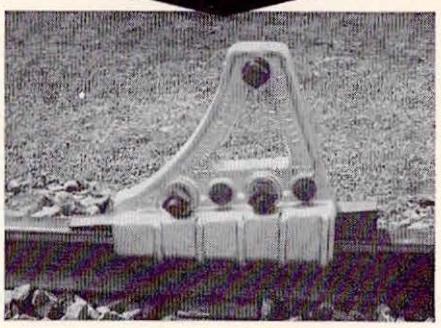
Edward W. Wheeler, 87, a former vice president of the **Maine Central** and **Boston & Maine**, died Nov. 1 in a Portland, Me., hospital.

DURABLE
BUMPING POSTS



Specify 'Durable' for strongest construction and positive protection. Durable Bumping Posts are ruggedly constructed, built for heavy duty to fit all rails. Easy to install, Durable Posts can be erected and placed in position without the removal of existing rails. Write for new literature on Bumping Posts and complete line of Trackwork.

DURABLE
"Self Tightening"
WHEEL STOPS



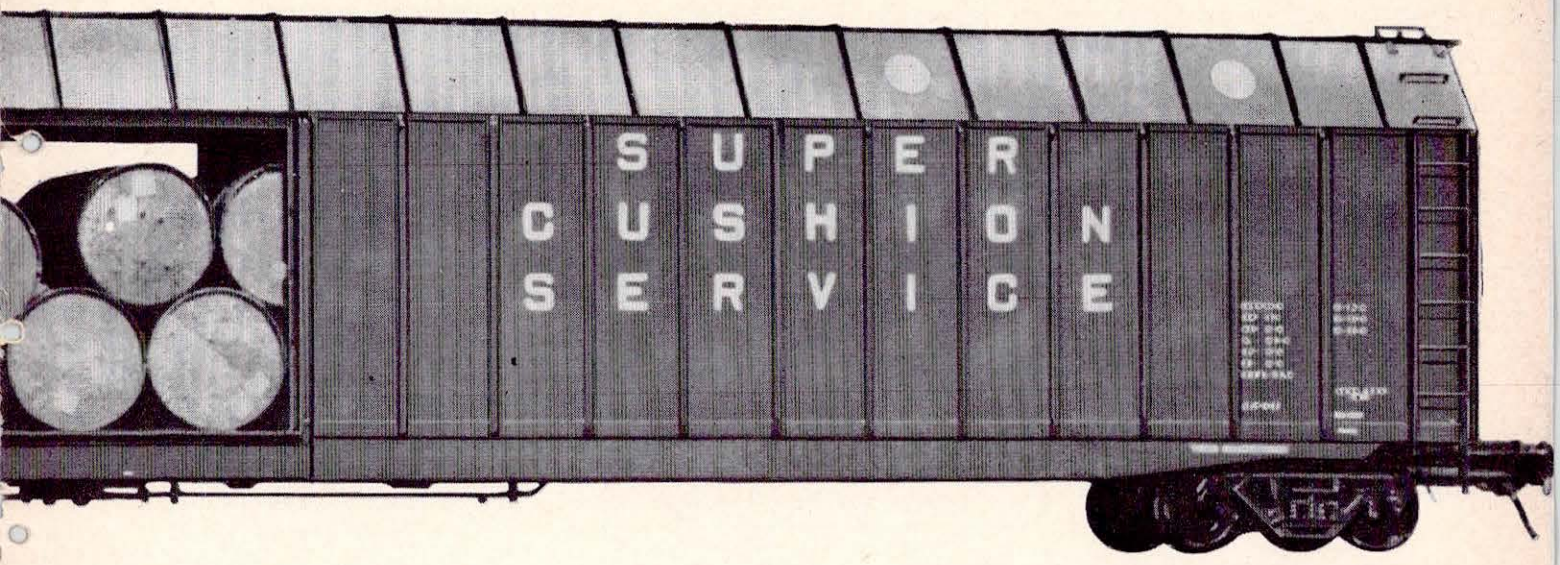
Tapered wedge design insures a tight grip and continuing "self-tightening" action of wheel stop despite wear of the rail. Readily moved from one weight rail to another, one size fits all rail 60# and heavier. No drilling required—constructed of malleable iron, highly resistant to atmospheric corrosion. Weight 220# pair. Write for new literature on Wheel Stops and Trackwork. Phone 343-9508, Area Code 304.

Everything in Trackwork

MIDWEST STEEL CORP.

508 Capitol Street, Charleston, West Virginia

The world's biggest boxcar has the world's



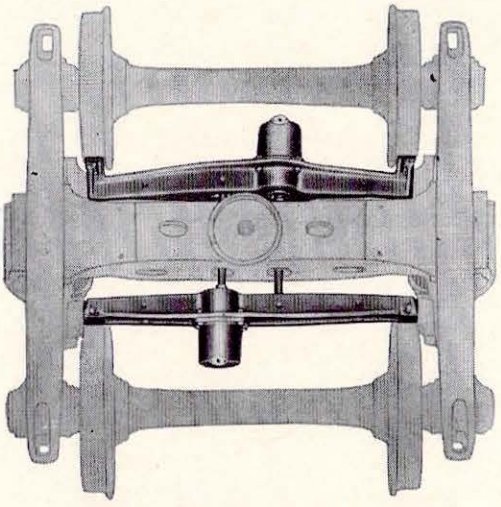
simplest brake assembly... WABCOPAC®

The Southern Railroad's new mammoth boxcar is so long that it has to have skylights in the roof so that the unloading crew can see what they are doing. Equipped with WABCOPAC Brake Assembly, the car is nicknamed the "Big Boy" and with approximately 10,000-cubic-foot capacity and an over-all length of 95 feet, it certainly deserves that name. Southern needed a very large capacity car to permit low-cost handling of tobacco in hogshead as well as other light, bulky loads. They built the "Big Boy" and equipped it with the WABCOPAC Brake Assembly.

WABCOPAC Brake Assemblies eliminate body-mounted cylinders, cylinder levers, slack adjusters, support brackets, rods, truck levers and beams. By reducing dead weight, hauling costs are lower and payload can be increased. Each truck assembly consists of two identical WABCOPAC Brake Units, joined by push rods and equipped with COBRA* Composition Brake Shoes.

Compare these advantages to your present operation, then contact your local Westinghouse Air Brake Division representative.

*Registered trademark of Railroad Friction Products Corporation



WABCO

WESTINGHOUSE AIR BRAKE DIVISION
WILMERDING, PA. / Westinghouse Air Brake Company

WP, GE unveil new data system

A total-information control system, viewed as a revolutionary railroad management tool, is to become operational in 1965.

Western Pacific directors last week approved the installation of what was described as "the first all-embracing information and control system ever established by a United States railroad." WP President F. B. Whitman said the system "will completely revolutionize our management approach."

The General Electric Computer Department, Phoenix, Ariz., will provide the computer equipment and systems engineering support for the new data system.

Designed by a WP-GE engineering team, the system will be controlled from an electronic command center at San Francisco.

As a GE spokesman described it last week, the system will monitor both empty and loaded cars as they move over the line. Complete waybill information will be recorded by the computer to facilitate rapid tracing of individual cars and shipments.

Additional functions have been designed into the system. For example, according to the GE spokesman, the computer will be able to prescribe scheduling of trains, routes, crews and locomotive requirements. Numerous statistical reports will be made available by the computer, as well as financial statements, customer billing statements and schedules for the planning of maintenance work.

"For the first time," said Mr. Whitman, "we will be running the business on precise and reliable current information instead of on the experience and records of past operations. Experience, intuition, history and memory are vital to any manager, but present-day business pressures dictate the need for more complete and accurate methods. Management decisions based on approximation and past history will be terminated, at least for Western Pacific. From a management standpoint, this unique systems approach will enable us to take full advantage of operation research techniques. Notable among these are such advanced tools as linear programming, structure tables and model simulation."

Important among the advantages expected to accrue from the new system, said the WP president, will be higher constancy and predictability of service performance. He also cited improved system-wide scheduling of maintenance, better utilization of rolling stock, and precise costing procedures.

Another WP officer, Executive Vice President M. M. Christy, predicted that "through the medium of the General Electric-Western Pacific system, we are confident we can increase effective car usage by at least eight or ten per cent."

The new data system, which came out of a study that began in mid-1961, is scheduled to become operational in second quarter 1965. The system will comprise a digital computer with associated input-output equipment. Positioned along WP lines will be communication equipment through which information will be transmitted into the central computer complex. Available communication lines will be used to transmit waybill information through GE Datanet equipment and, in turn, into the computer system.

Board gives car-porter views

A Presidential Board has recommended a pay raise and shorter hours for sleeping-car porters in the BSCP dispute with Pullman Company, New York Central, Rock Island and Soo Line.

Increased hourly pay and a shorter work month, with no reduction in take-home pay, has been recommended for sleeping-car porters by an emergency board. The recommendations came out of the board's investigation of a dispute between the Pullman Company, Rock Island, New York Central and Soo Line, and those of their employees who are represented by the Brotherhood of Sleeping Car Porters.

The report went to President Kennedy Nov. 2. The board, which was created by the President last July to avert a threatened strike, was Emergency Board No. 155. Its members were Chairman Jacob Seidenberg, J. Keith Mann and Frank D. Reeves.

As to wages, the brotherhood demanded an increase of 25 cents per hour. The board recommended a 5.14-cents raise, with two cents retroactive to Feb. 1, 1962, and the other 3.14 cents retroactive to May 1, 1962.

● **The work-month proposal.** As to the work month, the brotherhood demanded a reduction in hours from 205 to 173. The board recommended a 180-hour month to be achieved over a period of 2½ years. This contemplates that the initial reduction, to 195 hours, would come not later than a month after the effective date of an agreement implementing the recommendation. A year later, there would be a second reduction, to 190 hours, while a third cut, to 185 hours, would come after another year. The final reduction, to 180 hours, would come after the 185-hour month had been in effect six months.

The board also recommended liberalized overtime arrangements. Time now worked by porters in excess of the 205-hour month is paid for on a straight-time basis for the first 35 overtime hours and on a time-and-one-half basis thereafter. The brotherhood demanded that all overtime be on the time-and-one-half basis. The board recommended that the 35-hour leeway be reduced to 10 hours, i.e., that the first 10 hours of overtime be on the straight-time basis after which the time-and-one-half basis would apply.

● **Deficit builder.** The board calculated that maintenance of take-home pay in connection with the shortened work month would have the effect of adding about 40 cents to the hourly wage rate of the porters. It also calculated that the recommended arrangement would add more than $2 million a year to the operating expenses of the Pullman Company, which had a 1962 operating deficit of $18,328,722. Porters involved in the case include 2,008 employed by the Pullman Company, 182 by NYC, 40 by RI, and 5 by Soo.

Market Outlook

Carloadings down 0.3% from previous week's

Loadings of revenue freight in the week ended Nov. 2 totaled 622,566 cars, the Association of American Railroads announced on Nov. 7. This was a decrease of 2,015 cars, or 0.3%, compared with the previous week; an increase of 13,979 cars, or 2.3%, compared with the corresponding week last year; and an increase of 3,131 cars, or 0.5%, compared with the equivalent 1961 week. Ton-miles generated by carloadings in the week ended Nov. 2 are estimated at 13.8 billion, an increase of 7.3% over the corresponding week of 1962, and an increase of 11.7% over the 1961 week.

REVENUE FREIGHT CARLOADINGS
For the week ended Sat., Nov. 2

District	1963	1962	1961
Eastern	86,828	84,118	89,196
Allegheny	99,256	95,818	102,861
Pocahontas	56,794	51,549	54,740
Southern	118,811	117,767	115,218
Northwestern	85,569	81,865	82,509
Central Western	131,440	134,048	130,587
Southwestern	43,868	43,422	44,324
Total Western Districts	260,877	259,335	257,420
Total All Roads	622,566	608,587	619,435
Commodities:			
Grain and grain products	68,625	66,378	56,266
Livestock	6,470	7,874	8,384
Coal	116,818	110,069	112,424
Coke	6,556	6,031	7,865
Forest Products	39,159	38,541	38,384
Ore	38,524	30,313	38,105
Merchandise l.c.l.	15,795	21,639	27,825
Miscellaneous	330,619	327,742	330,182
Nov. 2	622,566	608,587	619,435
Oct. 26	624,581	614,632	647,549
Oct. 19	626,180	613,226	650,958
Oct. 12	635,596	606,881	642,155
Oct. 5	632,049	594,775	639,784
Cumulative total, 44 weeks	24,658,484	24,608,937	24,284,285
Estimated revenue ton-miles (millions) 44 weeks	531,500	506,100	477,700

PIGGYBACK CARLOADINGS.—U.S. piggyback loadings for the week ended Oct. 26 totaled 16,934 cars, compared with 15,128 for the corresponding 1962 week. Loadings for 1963 up to Oct. 26 totaled 661,383 cars, compared with 583,302 for the corresponding period of 1962.

IN CANADA.—Carloadings for the seven-day period ended Oct. 21 totaled 85,586 cars, compared with 72,006 for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada		
Oct. 21, 1963	85,586	25,751
Oct. 21, 1962	75,015	22,707
Cumulative Totals		
Oct. 21, 1963	2,891,975	932,668
Oct. 21, 1962	2,891,904*	963,596*

*Corrected

New Equipment

FREIGHT-TRAIN CARS

► *Canadian National.*—Is equipping 500 cars with wider doors at the Point St. Charles shops near Montreal. CN's conversion program may eventually involve 5,000 cars being equipped with the 9-ft doors to meet the increased use by shippers of such mechanical loading devices as forklift trucks.

► *Chesapeake & Ohio.*—Will build 2,000 "Super Eighty" 80-ton hopper cars for coal service at its Raceland, Ky., shops. Completion of the $16 million order is scheduled for Mar. 1, 1964. The railroad also ordered 1,000 box cars, costing $11 million, to be built by Pullman-Standard and ACF.

► *Louisville & Nashville.*—Ordered 825 100-ton hopper cars and 425 80-ton hopper cars from Pullman-Standard at a cost of approximately $15.5 million. All cars will be equipped with roller bearings. Production will begin in December. Deliveries will run Jan.-May, 1964.

► *Phillips Petroleum Co.*—Ordered 265 32,800-gallon-capacity two-diameter tank cars from General American for hauling liquefied petroleum gas. The cars have a capacity 2,500 gallons greater than the capacity of the first two-diameter cars introduced by General American in 1961. The diameter at each end has been increased from 99 to 104 inches; the diameter of the middle section is 118 inches. Weight of the car, General American says, has been decreased by more than six tons. Delivery is scheduled to be completed by March 1964.

SPECIAL

► *Boston & Maine.*—Ordered 30 REM-GUN, high-pressure cleaning guns from Railway Equipment & Methods Co., for snow removal and other uses.

Purchases

► *Seven Months' Purchases Up 4.6%.*—Purchases by domestic railroads of fuel, material and supplies in this year's first seven months were $37,487,000, or 4.6% higher than in the comparable 1962 period. Purchase estimates in the following tables were prepared by Railway Age.

	July 1963 (000)	*Seven Months 1963 (000)*	*Seven Months 1962 (000)*
Rail	$ 2,269	$ 27,705	$ 31,346
Crossties	3,617	25,324	19,793
Other Material	90,902	577,451	542,174
Fuel	32,464	213,266	212,946
Total	$129,252	$843,746	$806,259

*Subject to revision.

INVENTORIES†*

	July 1, 1963 (000)	*July 1, 1962 (000)*
Rail	$ 47,765	$ 47,888
Crossties	56,716	65,481
Other Material	327,902	341,948
Scrap	22,275	25,863
Fuel	19,184	19,863
Total	$473,842	$501,043

*Subject to revision.
†All total inventory figures taken from ICC statement Q-125 for month indicated.

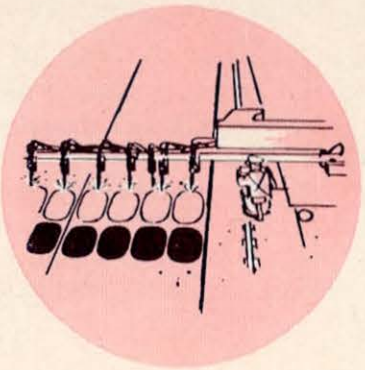
You'll find equipment, materials, and service specifically for railroad operations all available at one convenient call.

A COMPLETE LINE OF GAS WELDING AND CUTTING EQUIPMENT

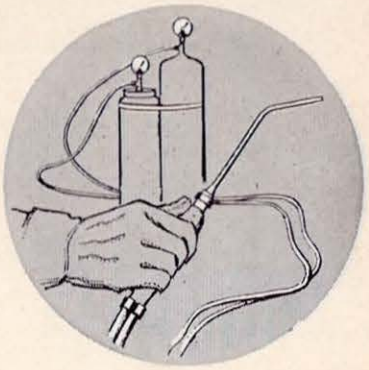
HAND WELDING AND CUTTING. Specifically designed for railroad use, OXWELD equipment is ruggedly built and thoroughly tested for safety, dependability, and ease of operation. A broad line of OXWELD welding torches, cutting attachments and cutting torches is sold only to railroads, to perform such specialized work as car reclamation, cutting and welding rail ends, repairing bridges and buildings, etc.

GASES. For 55 years, LINDE, through its affiliates and the Oxweld Railroad Department, has been serving the railroads with high-purity welding gases. LINDE gases for welding and cutting include acetylene, oxygen, argon, and others. Nationwide production and delivery facilities help provide prompt, efficient service.

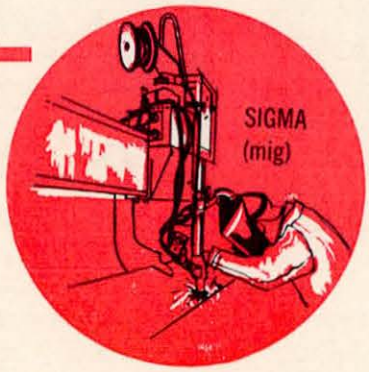
CUTTING MACHINES. These machines are important to car maintenance operations because they can be used for simple cutting jobs or mass production of intricate patterns quickly and economically. The pieces will be uniform in size, with clean, easy-to-weld edges. Ratio cutting and tape control attachments are available to minimize human error.



MISCELLANEOUS EQUIPMENT AND SUPPLIES. OXWELD gas regulators are designed and built for superior performance while providing years of dependable and accurate operation. Welding rods specifically for railroad use include the well-known M/W rod, DRIBURN rod, and HAYNES alloy rods for hard-facing. OXWELD welding heads and cutting nozzles are chrome-plated to resist spatter and heat, for longer life and fast, accurate operation.

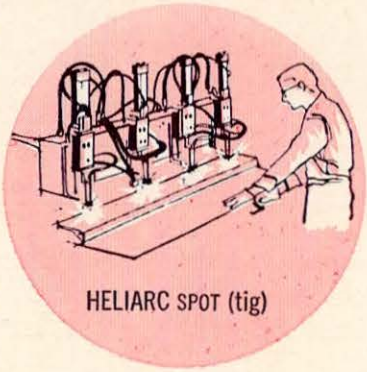


A COMPLETE LINE OF ELECTRIC WELDING EQUIPMENT



MIG WELDING EQUIPMENT. Choose any or all of three types of LINDE's "Sigma" equipment for car shop operations where a variety of metals must be welded fast and economically. The latest in the line is the SIGMATIC "Push-Pull" welder that lets the operator work up to 100 ft. from the power source, control and wire feeder. He can work the full length of a car, from floor to roof, without moving the power source!

TIG WELDING EQUIPMENT. LINDE originated the HELIARC line. This inert gas-shielded welding process solves the problem of "hard to weld" metals. It's another of our contributions to railroad efficiency, and provides high quality welding of many thin-gage metals, such as stainless steel and aluminum, which are becoming increasingly popular in railroad equipment and cars. In addition to unsurpassed quality and flexibility, HELIARC welding requires little or no post-weld cleaning, thus providing optimum savings in time and labor.



POWER SUPPLIES. The extensive line of LINDE power supplies enables railroaders to select the proper model to meet the welding requirements of mechanical or maintenance-of-way departments. A variety of units, 200, 300, 500, 750 and 1,000 amps., is available for mig, tig, submerged-arc, flux-cored wire and CO_2 welding operations.

Get all this through one source

YOUR OXWELD

TRADE MARK

RAILROAD REPRESENTATIVE

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PAN AMERICAN PIGGYBACK

Bananas go TOFC, Guatemala to U.S.

A large banana shipment was moved 2,500 miles in refrigerated containers from Guatemala through Mexico to Texas, cutting transit time in half, compared to the usual water route.

"The days of the old banana boats may soon be gone forever. Now bananas will travel like people—with air conditioning."

So spoke Joe Barshop, San Antonio, Tex., produce distributor, as he watched the unloading of the first international rail piggyback shipment of bananas, Guatemala to the United States via Mexico.

The bananas—160,000 pounds of them—were loaded in four Cooltainer refrigerated containers at a United Fruit Co. plantation in Guatemala and weren't re-handled until they arrived at destination. The containers were trucked from the loading point to Ciudad Hidalgo on the Guatemala-Mexico border and then piggybacked to San Antonio in passenger-train service over the Nacional de Mexico and Missouri Pacific.

● **Four-day trip.** Time required for the 2,500-mile trip: four days, compared to the average 10-day transit time required for usual shipping methods (which may include canoe and ox-cart as well as ship, rail and truck). According to the Cooltainer Corp., the piggybacked bananas arrived in Texas in perfect condition. Conventional handling, the company notes, generally results in spoilage of about 20% of the cargo due to re-handling and lack of adequate temperature controls during transfer operations.

Railroad and supply-company officers joined in hailing the international piggyback operation. The new service and the upcoming complete dieselization of Mexican railways, said Benjamin Mendez, general manager of the NdeM, "provides the modern transportation system required for our industrialization. Increasingly, Mexico will serve as a two-way bridge between the United States and our sister nations in Central and South America. . ." C. P. Tomm, president of Xtra, Inc., lessor of piggyback equipment, called the first move "the forerunner of thousands of fast shipments of the abundant food products of Mexico and Central American nations."

Cooltainer units used in the movement were equipped with power units capable of producing 7½ tons of refrigeration plus 15 kw of electric power to drive four fans, which provide an airflow in the container of 6,000 cfm under slight pressure. The system force-feeds air constantly up from the bottom through the center of the load, Cooltainer says, thus removing field and respiration heat from non-precooled loads of perishables. In the banana shipment, the company noted, temperature in all containers did not vary more than 3 degrees in any part of the load.

PROGRESS REPORT

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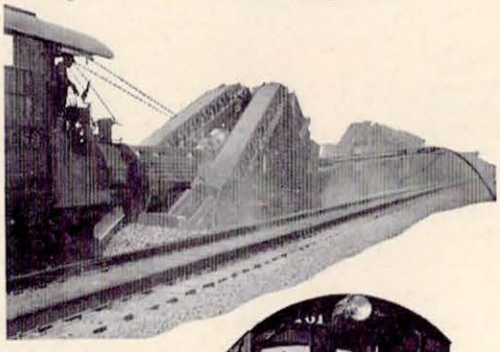

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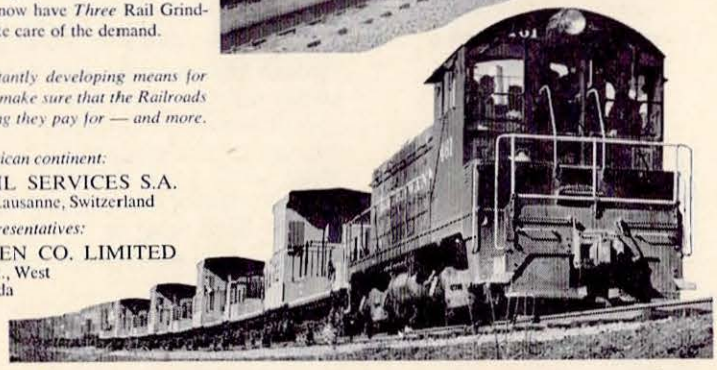

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RR Safety steadily improving

Decline in work accidents and passenger fatalities is noted.

Railroad workers and passengers are safer than ever before. Delegates to the National Safety Congress in Chicago Oct. 29-31 traced the decline of the industry's on-the-job accidents and passenger fatalities, and examined one trouble spot that has not been eliminated—grade crossing accidents.

"In the aboriginal years of safety, 1905-1909," noted H. J. Surles, Great Northern's general superintendent of transportation, "we averaged 535 trainmen on-duty deaths each year. During the period 1957-1961, we averaged 21 deaths each year. During the same periods 248 passengers were killed each year, 1905-1909, compared to 15 in the same period, 1957-1961."

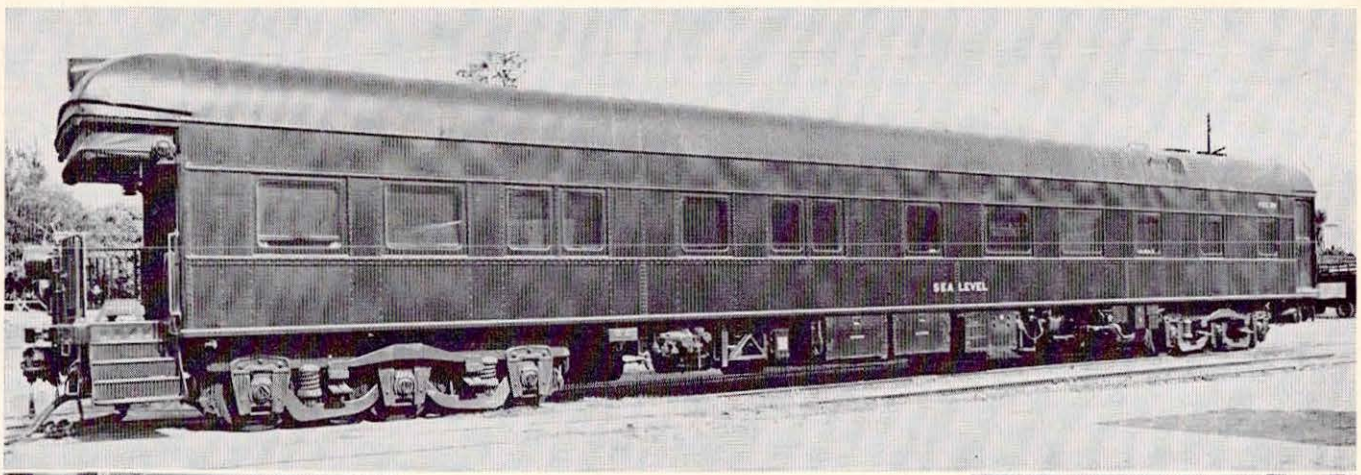
Greater safety, Mr. Surles said, has resulted from management's recognition of the need for safety programs. The progress that has been made, he added, has changed the criteria used by railroads in gauging safety performance: "The era has passed where we can point to fatalities and lost time injuries as our sole criteria of progress. We must deal in incidents of failures in our operations that can cause any type of injury. . . . When an incident takes place, it is only a matter of degree whether it will result in a fatality, a crippling, or a disabling injury."

Success of accident prevention programs also has made safety more difficult to preach, according to Frisco's director of supervisory training, Verne C. White. "The ultimate goal of safety is to avoid accidents," Mr. White told the NSC audience. "However, avoiding accidents is a negative goal, it infers 'do not have an accident.' How can people be motivated toward something which is negative?"

Safety to the average person, Mr. White added, becomes desirable only when an accident occurs. "This creates an acute problem in industry," he said, "because accidents are much less frequent than they were twenty years ago. As accidents become more infrequent, people become less aware of the virtues of safety."

The solution proposed by Mr. White: ". . . point out safety as a positive goal, something to strive for and which can be reached because it is made to seem desirable and is kept foremost in people's mind at all times. Build strong habits into the safety program. . . . Safe habits should become as much a part of the work pattern as it is to pass the pepper along with the salt."

Better enforcement of grade crossing laws for motor vehicle drivers and installation of more grade separation structures and crossing protective devices were proposed by Joseph H. Hays, general counsel of the Association of Western Railways, to combat the still-serious problem of train-motor vehicle collisions. "Some means must be formulated by which public funds can be obtained and used to build and maintain structures and devices which will automatically protect the motor vehicle driving public from its own folly," Mr. Hays said. He estimated the cost of separating all of the 224,547 grade crossings in the country at $86 billion. A total of $1.8 billion would be needed, he said, to equip presently unprotected crossings with automatic protection devices, and an annual expense of $202 million would be required to maintain the equipment. Railroads could not be expected to bear the burden, he stated.



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YOU OUGHT TO KNOW

EMD's first GP-35 locomotive went into service Nov. 7 on the Atlantic Coast Line. Two of the six 2,500-hp units being delivered to ACL for high-speed perishable freight service between Florida and the north were displayed during ceremonies at Jacksonville, Fla. The new design (RA, May 20, 1963, p. 42), is the successor to General Motors' 2,250-hp GP-30.

Two piggyback services between New England and the Southeast have been introduced by the New Haven and its subsidiary, New England Transportation Co. Direct TOFC operations link southern New England points with 5 southern states, and additional truck haulage moves between New England and piggyback ramps of the Pennsylvania and Jersey Central outside New York City for transshipment southward.

REA Express is expanding its Unit-Haul container plan to six new routes, effective Dec. 1. The daily Chicago-Boston service over New York Central lines will carry containers that will be delivered by truck from Boston to Worcester, Mass. and Portland, Me. The Daily Chicago-Los Angeles service over Santa Fe lines will offer similar service to Santa Ana and Van Nuys, Calif. Equipment used by REA will be 60 containers, 3 General American C-85 cushion rail cars, 2 Dempster truck-mounted Sideloaders, and 22 trailer delivery chassis.

The Central Vermont's 97-year-old trainshed at St. Albans, reportedly the last remaining structure of its kind in the U.S., has been razed for safety and economic reasons. The 351-foot trainshed was completely open at north and south ends with no columns inside, making use of unusual Howe wooden trusses. Built at the close of the Civil War, it was one of the most photographed railroad buildings in the country.

A locomotive using a turbojet gas turbine rated at 20,000 shaft horsepower, to deliver 16,000 horsepower at the rail, has been mentioned as a possibility by Union Pacific President A. E. Stoddard. At the American Railway Progress Exposition in Chicago, the Pratt & Whitney Aircraft Division of United Aircraft Corp. had a display showing how gas turbines could be used for this purpose. Pratt & Whitney suggested a two-unit locomotive that would deliver 15,000 rail horsepower "on demand without warm-up."

Trailer-mounted boiler plants, characterized as the world's most powerful mobile units, have been put through their paces to demonstrate steam capacity and roadability at Vapor Corp.'s Chicago plant. The two units, adaptable to TOFC movement, will serve as emergency or temporary facilities, augment present boiler equipment and could replace obsolete railroad power plants. Designed and built by Vapor for the U.S. Navy, Bureau of Yards and Docks at an approximate total cost of $135,000, each trailer contains four 200-bhp boilers. Combined minimum output of all boilers in both trailers is 53,200 pounds saturated steam per hour at 125 psi. Working pressure range is adjustable between 100- and 600 psi.

In its continuing bid for increased passenger traffic, the Canadian National has introduced a "Charge-a-Trip" installment payment plan, and is reducing its "Car-Go-Rail" charges. "Charge-a-Trip" applies to fares above $50 for travel over CN lines, with no money down and payments spread over 6 to 36 months. It differs from the CN's existing time payment plan in that the railroad will finance it. "Car-Go-Rail" enables passengers to ship their cars by train and have them available at destinations.

The Pennsylvania's plans to spend more than $500,000 to improve its Conway Yard facilities should alleviate the concern of some political leaders in Beaver County, Pa., according to PRR Vice President Morton S. Smith, regional manager at Pittsburgh. Mr. Smith said that it had been charged that the railroad was planning to downgrade Conway Yard under proposed merger with the New York Central.

The number of obsolete and overage trucks used by railroads increased sharply in the past two decades, according to a survey made by Wheels, Inc., a Chicago leasing company. The average age of railroad trucks was 7.4 years in 1962, compared to 6.1 years in 1941. This is in contrast to the national average age for all commercial and industrial trucks of 6.8 years in 1962 and 4.8 years in 1941. On gasoline-driven trucks, the study found that the average waste in operating costs was 3.1¢ per mile on vehicles 5 years old or more, and represents a loss to railroads of $31,000 per year per million miles.

V. R. Hawthorne, retired vice chairman, AAR Mechanical Division, died Oct. 18 in Jacksonville, Fla. Mr. Hawthorne's son, J. W. Hawthorne, is assistant vice president-equipment, Atlantic Coast Line.

A new concept is needed to extend the service life of railroad ties at a reduced cost, Frisco President L. W. Menk told members of the Railway Tie Assn. at their annual luncheon in St. Louis. In an effort to reduce maintenance costs, Mr. Menk said, railroads are seeking "means of stretching out the cycle of surfacing and lining track. Engineers are talking of a 'ten-year' track structure. This includes seeking to stretch out surfacing cycle and yet have a smoother running track . . . with improved durability." The answer may be in a substitute material, such as concrete, he added, or in development of a chemical, preservative or laminating technique "to combine even greater durability and antisplitting character with the good load bearing-transmitting characteristics of a better species of wood ties."

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by Richard B. Andrews, Professor of Commerce, University of Wisconsin, and Director, Economic Analysis Survey, Department of Resource Development, State of Wisconsin

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L&D—more info needed

Find out what suffers above-average L&D—and where, who and how much; officers will then know where to concentrate attention.

In 1962 freight claim payments on grain mounted to almost $11.2 million—up about 17% from the preceding year. A strange thing about these grain claims is that a large percentage of them come from inexplicable loss of weight between that loaded and that unloaded. The weight has declined and the railroads are asked to pay for it (i.e., after a meager reduction of a few pounds for allowable shrinkage). Inspection of the car reveals no leakage or other apparent cause for which railroads are at fault—but the claim is made just the same.

In Railway Age of last March 25 (p. 37) we reported the disturbing experience of a large midwestern railroad which recently went to the trouble to institute a program of intensified attention to its freight claim problem. It found in its own case a sad lack of accurate information as to the precise causes of loss and damage to freight, and considerable laxity in checking the accuracy of claims before payment—deficiencies it is working hard to overcome. There is little reason to assume that fully satisfactory checking procedures—and accurate determination of causes of loss and damage—prevail on most railroads.

Perhaps the main trouble may lie in the fact that collection of necessary information, and preventive measures, are left largely to the initiative of individual railroads, whereas *the problem is, by its very nature, an inter-railroad one.*

Is it not possible that a uniform system of reporting by all railroads (with perhaps some variation in questions, depending on the commodity) might yield more useful information than can be expected from piecemeal handling by individual railroads? Even if the reports did not attempt to assign causes (where not plainly evident), they could still be of great value if they were to show no more than such data as car number and type, commodity, weight of lading, origin and destination, name of shipper and receiver, kind of loading, routing and nature and extent of damage.

If such reports were sent to a central location and key-punched onto cards, all kinds of significant tabulations could be made that would be impracticable for individual railroads to produce. Suppose there were an origin point that is careless in its loading methods (or in the quality of the products loaded). If destinations (where damage would be discovered) were widely scattered on many railroads, there is usually nothing in presently available figures that would likely turn the spotlight on the real location of the trouble. But complete statistics on total claims on all shipments from that origin would clearly point to a situation worth looking into.

If desirable (as is probable), reports from individual railroads to the central agency could be held in confidence—but with duplicate punch cards and appropriate summaries being supplied to participating railroads, covering their own claims.

•

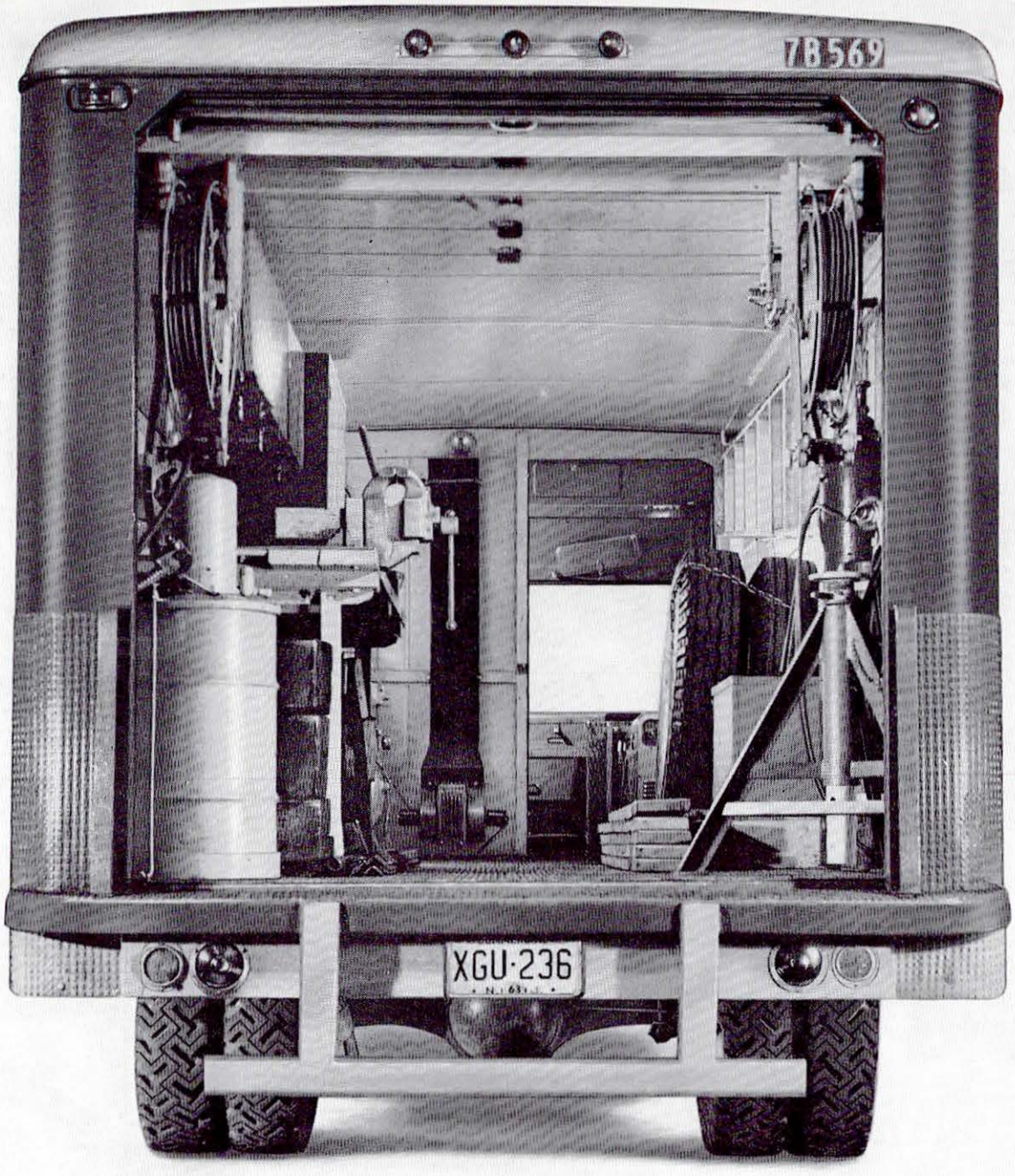
All the foregoing discussion is, obviously, speculative—but there is some factual experience to support the suggestions. Some localized but intensive study of claims on a few commodities that we have heard of have revealed some interesting results—e.g., such as some shippers and some origins and destinations being more unlucky than the average in damage suffered by their shipments. Can this be mere coincidence? Only on-the-spot inspection can provide the final answer. But comprehensive figures, adequately analyzed, could steer the inspection forces to the places where their services are most likely to prove fruitful.

As the article in our March 25 issue reported, "L&D used to be handled very simply—by going out and hollering at a switchman." Subsequent inquiry has revealed that, while the switchman is not necessarily innocent, the causes of loss and damage are not few and simple, but multitudinous and complex.

Spotlighting the trouble

Larger forces of inspectors and educators in claim prevention could doubtless improve conditions—but the hard-to-answer question always arises as to whether the likely savings would greatly exceed the added costs. The advantage of intensive machine analysis on a comprehensive basis is that it could scarcely fail to localize the above-average losses as to commodity, type of equipment, origin and destination, routing, kind of loading, nature of damage, and shippers and consignees involved. The computer cannot replace the supervisor, but it should help to make his efforts more productive.

As to cost—to the relatively inexperienced onlooker it seems possible that uniform reporting of L&D claims for machine processing might not necessarily be notably more expensive than that now being done. Anyhow, we're passing along the idea (which, incidentally, did not originate with us), as worthy of more discussion by the experts. $123,000,000 (1962's L&D payments) is a lot of money.



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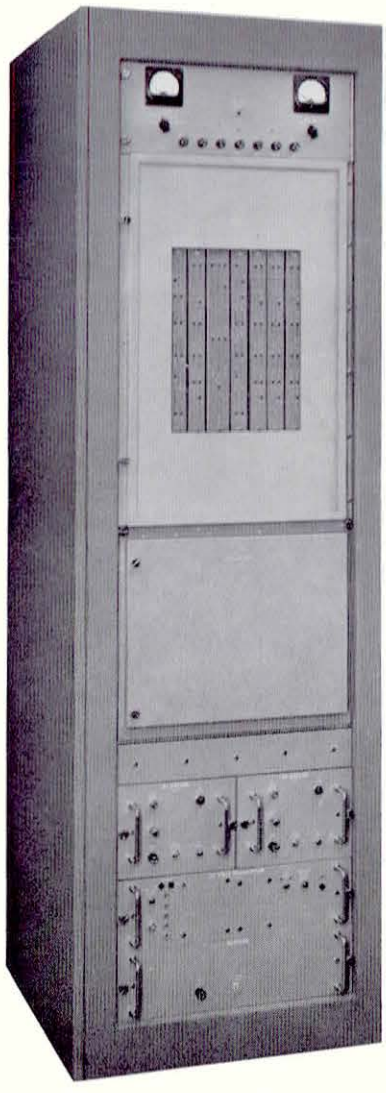

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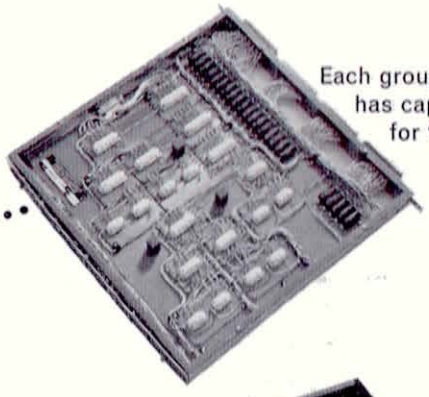

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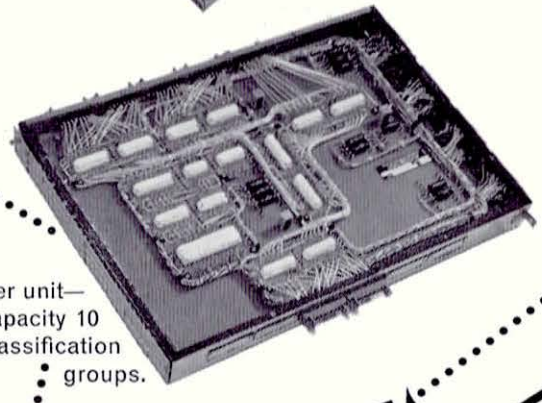

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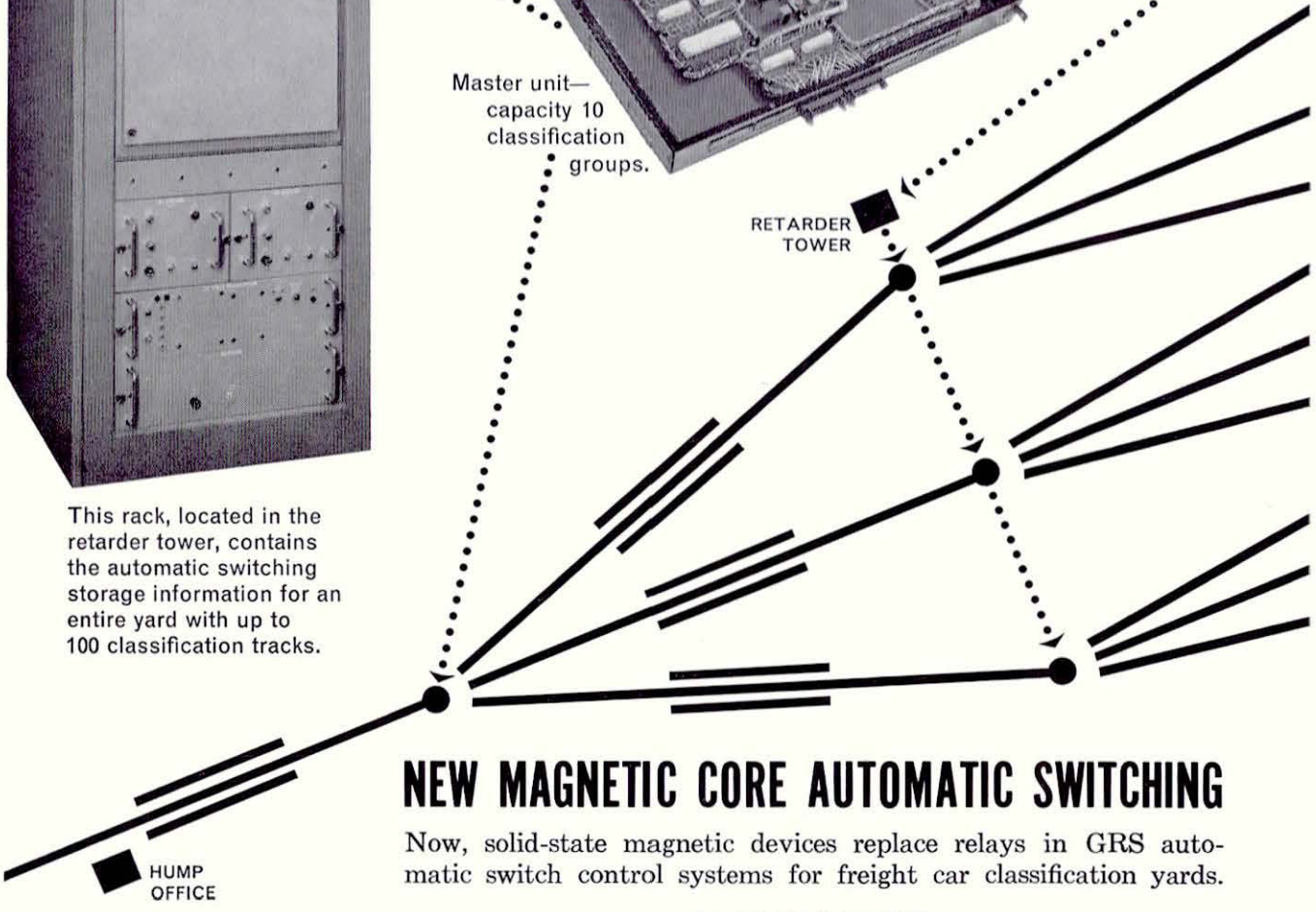

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